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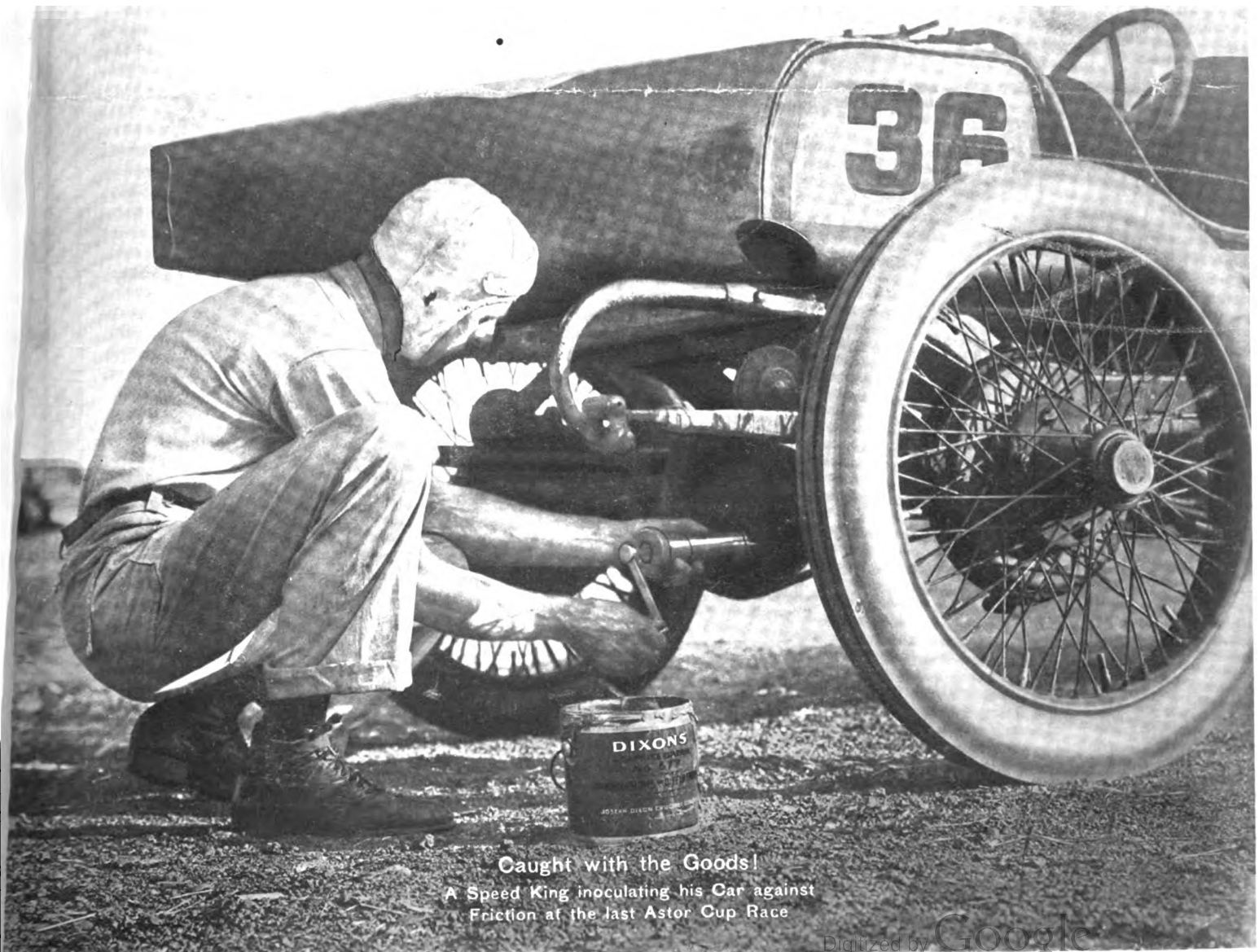
Graphite

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JAN 5 1917

VOL. XIX

JANUARY, 1917

No. 1



Caught with the Goods!
A Speed King inoculating his Car against
Friction at the last Astor Cup Race

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1888



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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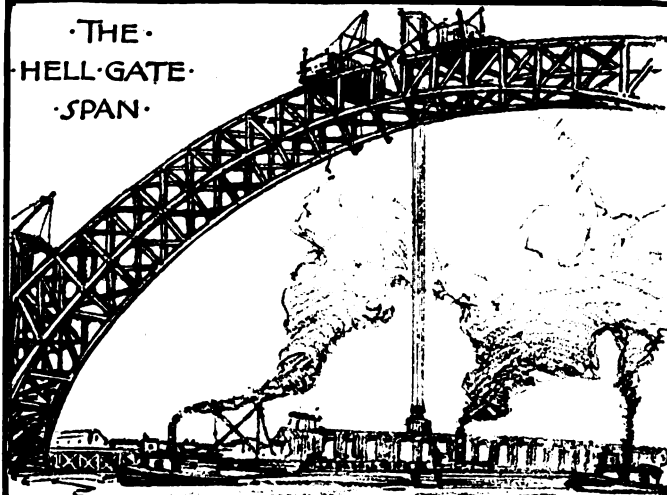
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THE
HELL-GATE
SPAN



A Pencil Bridged the River First

A marvel of engineering and
draftsmanship was this great
span. The details were te-
dious and necessarily cor-
rect. The success of the great
span depended on the accu-
racy of the penciled drawings.
When you are designing in-
tricate problems, you cannot
afford to have your lead break,
or crumble, or tear the paper.
You cannot afford not to have
the best pencil.

DIXON'S
ELDORADO

"the master drawing pencil"

has received the highest en-
dorsement of architects, en-
gineers and draftsmen all
over the country. It is the
correct pencil for difficult
work. Made in 17 degrees.

Full-size samples sent on re-
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please specify degrees chiefly
used

JOSEPH DIXON CRUCIBLE CO.

Dept. 190-J

JERSEY CITY, N. J.

DIXON'S BEST WHITE N°352

writes white on blueprints

DIXON'S "ELDORADO" - the master drawing pencil - 6H

Graphite



Scientific Lubrication of Automobiles

COMPETENT manufacturers of lubricants for adequately lubricating different parts of an automobile are, in season and out of season, persistently endeavoring to educate owners and users of automobiles regarding the utter futility of expecting a car to run satisfactorily without intelligently and effectively lubricating all the working parts. A proper lubricant varies with the service to be rendered and what is best for one bearing may be injurious elsewhere, even though all types may be the best possible for their intended purposes.

Experts in lubrication go so far as to say that a car cannot be operated, even the length of two or three ordinary city blocks, unless lubricated in some way, without seriously injuring parts of it. More machines are harmed because of lack of lubrication or the use of improper lubricants than from any other single cause. For instance, the owner of an automobile who also owns a factory will buy, say, a \$5,000 car. An engine for his plant may not cost any more, but the proprietor will employ a skilled, licensed engineer to operate the stationary engine securely bolted to a fixed, rigid base and will authorize the purchase of different kinds of lubricants and other materials to assist in effectively running such stationary engine.

But with his automobile the same individual will frequently buy oil for the engine and grease for the gears, expecting the same grease to lubricate all portions of his car. If one attempts sensibly to instruct such a person as to the necessity of proper lubrication, he frequently dismisses the matter with "I leave that to my chauffeur; anything he says is right for the car." It seems strange that an individual with the ability to build up a large manufacturing or mercantile establishment pays less attention to the lubrication of the more delicate parts of his automobile than to the stationary engine.

The car, however, is run over uneven roads with varying loads under changing climatic conditions, with but a fraction of the care or consideration that is given to the stationary engine held to a solid bed. Then owners wonder why a car deteriorates rapidly and does not last as long as it should.

Dealers who are successful in the automobile accessory line have profitably employed special men for the work—men who have studied the automobile, know thoroughly its requirements and also comprehend the necessary details pertaining to a growing accessory business.

Some of the most progressive American manufacturers

of lubricants go to the expense of keeping trained men in the field who instruct the dealer and his assistants as to how and where to use the different kinds of lubricant, so that they in turn may be qualified to give accurate information to customers, or advise intelligently the buyer seeking a proper lubricant for a certain part of the car.

The hardware dealer, to succeed in marketing accessory lines, must take more interest in vital details than many of them have been accustomed to practise. Another feature of this business is the frequent desire for too much profit, which often defeats its own object.

—*Hardware Age*, November 18, 1916.

The above article coincides with the contention of the Joseph Dixon Crucible Company regarding the need for more intelligent coöperation between manufacturer, dealer and consumer.

Stretching and Yawning

MAN possibly takes more time, whines more and does less than any other animal between the moment of awaking and standing erect. Although the stretch has been carefully explained by science, few know the real meaning. The stretch extends the body so that the veins, where congestion is most liable to take place and where pressure of blood is weakest, are so elongated that the blood flows more easily from the arteries, where the pressure is strongest, through the veins back to the heart, and circulation is equalized and stimulated.

The yawn is similar to the stretch. The yawn is a stretch of the lungs, while the stretch is a yawn of the muscles, and both express a hunger for oxygen. The half hour between waking and rising should be freshened by thoughts of joyous things—chuckling, laughing, stretching and yawning.

Stretching seems to be the natural behavior of all creatures on waking. For instance, if you have ever watched a cat or dog waking you observed that its first action was to stretch.

All the higher animals go through certain exercises on first awaking. There seems a universal instinct which teaches that certain stretches, expansions and breathings are necessary at this time. The movements of animals on awaking are yawning, deep breathing, expansion and stretching. But men rarely take such exercises.—*Porto Rico Progress*.

Mileage per Gallon

WILLIS: "Just think of it! Those Spanish hidalgos would go 3,000 miles on a galleon!"

GILLIS: "Nonsense. You can't believe half you read about those foreign cars."

♦ ♦ ♦

Not in the clamor of the crowded street,
Not in the shouts and plaudits of the throng,
But in ourselves are triumph and defeat.
—ANON.

On the Junk Heap

ACCORDING to the daily papers, a high authority in the automobile business estimates that 20 per cent. of the 2,100,000 cars licensed in 1915 are going on the scrap heap.

Is not the life of a motor car a matter of importance? Are people getting into the habit of casting aside their cars at the end of a year or two and buying new ones?

The more parts, the more wear.
The less lubrication, the more wear.
The poorer the lubrication, the more wear.

The better the lubrication, the longer life.

The racing men, those who demand the greatest and most arduous service of their cars, have found through long experience that Dixon's Graphite Automobile Lubricants prevent wear and furnish the best lubrication, which is demonstrated by the fact that their cars can travel farther per gallon of gasoline and make better time.

Dixon's Flake Graphite, when introduced to the bearing surfaces, forms a veneer-like coating of marvelous smoothness and endurance.

The Perfect Day

WHEN you've started the day with a bunch of pep
And a zest for the old ham — ;
When you've swung to work with a springy step
As the tasks of the day you planned;
When you've pitched right in and raised merry hob
With the work that you found to do,
With a brain so clear that the meanest job
Was easy as pie for you —
Then the feeling you have as you hit the hay
Is a feeling of great content,
And *that* is the end of a perfect day,
Of a day that has been well spent.
—Baers' Facts.

Teaches Spanish with Dixon Booklet

MR. C. L. JORDAN teaches in the Spanish Department of the John Adams School, Santa Monica, California. After looking over a copy of the Dixon booklet, "Useful Spanish Words and Phrases," he requested a copy for each of his forty-five pupils. Mr. Jordan again wrote and what follows is an appreciation more than an acknowledgment. "I thank you for the promptness with which you responded to my request for 'Useful Spanish Words and Phrases' and for the most generous manner in which you replied. The children are using the books in my classes in conversational Spanish and they unite with me in appreciation of them. We find these little books the most convenient and helpful aid in learning Spanish that we have been able to secure. I wish that you could have seen the delight of the children when they received the books and learned that they could keep them for their own. Before getting these books I had been making carbon copies of similar words for their use. The books have saved me a great deal of labor and provide exactly the vocabulary I have been looking for." "Useful Spanish Words and Phrases" is a booklet published by the Dixon Company for travelers, tourists and others interested in Latin-American countries and the Spanish language. A copy is sent free upon request.

Remarkable Water Highways

WE read the following in the *New York Sun*:

"Brazil possesses the most remarkable system of water highways in the world, which will some day be very valuable for transportation, irrigation and water power. These rivers are almost as important as is the vast extent of territory possessed by the republic. Try to imagine a river more than 3,400 miles in length, with its source in the Peruvian Andes 1,600 feet above the level of the sea, with vast tributaries, themselves from 1,000 to 2,000 miles long, draining a territory two thirds as large as our United States. This region is so rich and fertile that the great scientist Von Humboldt said of it: 'It is here that one day, sooner or later, will concentrate the civilization of the globe.'

"The Amazon River is a mile and a half wide at its last Brazilian port on the west, broadens until it attains a width of 150 miles at its northern

mouth alone, and discharges into the Atlantic a volume of water more than four times as great as the outpour of the Mississippi. It is navigable and is now actually being navigated by ocean liners for 2,000 miles, clear across Brazil from the Atlantic Ocean to Iquitos, in Peru, a Pacific coast country. This river is not attractive, but it offers great opportunities for money-making to the man with courage."

Credit

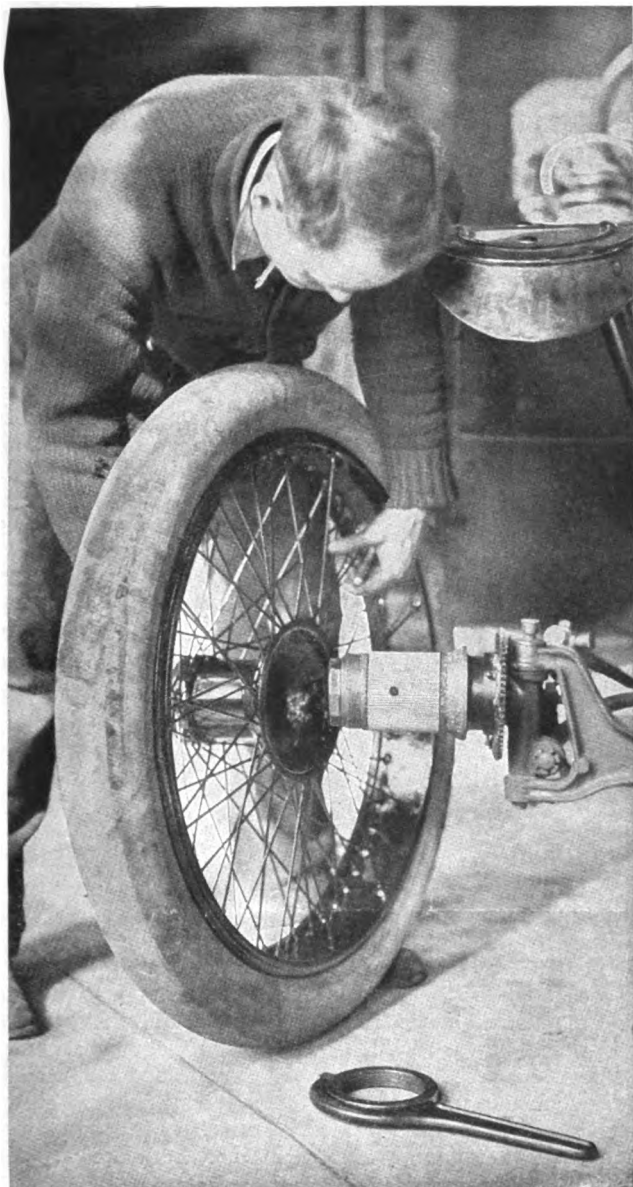
CREDIT, as defined by *The Valve World*, is nothing more or less than gambling in futures. You are betting against chance when you buy to-day with the promise of paying to-morrow. You are assuming that your income will be at least as much, that your position will remain secure, that sickness will not come, that emergencies will not arise, that business will remain good, etc. Any one of these things failing to come up to expectations may cause you to lose your bet.

The wage-earner, the man on a salary, who knows his income to a penny, should make the spending of that income as difficult as possible. At his best it will go easy enough. As a rule he receives his wages in cash. He knows how hard it was to earn them, and he should make it as hard as he can to part with them.

Under no conditions, save in permissible emergencies that are obvious, should to-morrow's prospective earnings be pledged to meet to-day's expenses. To-day's expenses are what you buy to-day, and if you buy to-day on credit, you have mortgaged to-morrow's wages to make the payment. If by any chance the expenses of to-morrow should be heavier than expected, the added burden of yesterday's expenses means that you are unable to pay; and thus your fondly cherished credit is impaired.

The Real Thing

THERE is graphite and graphite, but the real graphite is Dixon's Graphite, and Dixon's Graphite Automobile Lubricants are so superlatively excellent and so absolutely dependable that *The Fire Engineer* urges every chief of department to consider them and use them as a matter of general economy, satisfaction and service, and if he has any hesitation at all, he may rest assured that, in the interests of fire departments, *The Fire Engineer* will stand sponsor for this or any statement made by the Joseph Dixon Crucible Company, Jersey City, N. J.—*Fire Engincer*.



LUBRICATION OF WIRE WHEELS

THE wire wheel is becoming more popular every year as standard equipment on the better class of automobiles. The Standard Roller Bearing Company, of Philadelphia, are the makers of the well-known Rudge-Whitworth Wire Wheels, and in making their specifications for lubricants they have specified Dixon's Graphitoleo.

The Standard Roller Bearing Company specified that the lubricant used must be waterproof and must be a rust preventive. Besides having the above qualities, the lubricant used must be one that will not gum or turn rancid and it must not contain acids or alkalies.

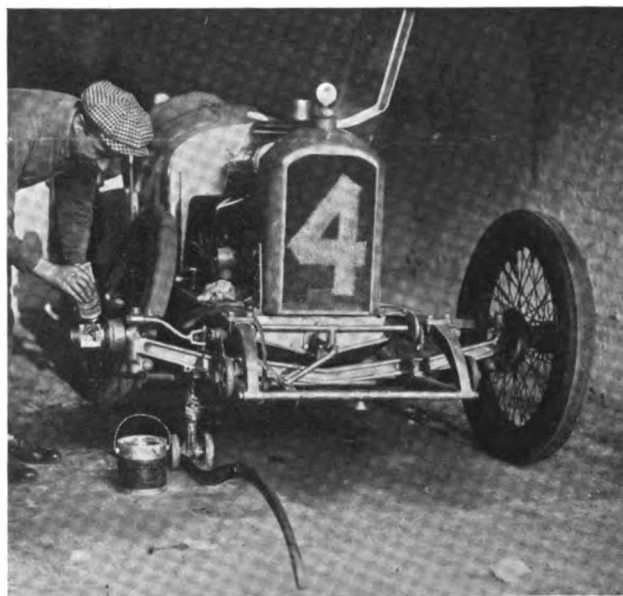
The reason why the Rudge-Whitworth wheel has been adopted by most of the famous racing drivers is due to the rapidity with which it can be changed and the factor of additional safety over the wooden wheel. On the Rudge-Whitworth equipped cars bearings are placed around the axle over which fits the inner hub. This inner hub has an outer surface containing serrations running parallel to the axle. These serrations or teeth fit into corresponding grooves on the hub shell of the wheel. When a wheel is changed it is unlocked and slips off and the new one is

slipped into place. The serrations of the hub shell and hub proper intermesh and do the driving.

The first illustration shows the wheel slipped off and the inner hub exposed. Upon close examination one can see the grooves or serrations on to which the hub shell fits.

Dixon's Graphitoleo has been adopted because it does not contain acids, alkalies, rosins, or fats. It is a pure mineral oil product containing the proper proportion of Dixon's Flake Graphite. Graphitoleo is absolutely waterproof, a rust-preventive, and will never freeze or gum, nor will it turn rancid. Flake Graphite prevents metal to metal contact, eliminating wear and preventing the annoying squeak that occurs when metal rubs against metal. It can be used in the bearings as well as on the serrations on the Rudge-Whitworth wheel.

The Standard Roller Bearing Company are recommending Graphitoleo to the manufacturers of cars on which the Rudge-Whitworth wheel is standard equipment; also to service stations, garages, and users of their equipment. The picture below shows Bob Dahnke, the mechanic for Dario Resta, the 1916 Racing Champion, caught in the act of applying Graphitoleo to the serrations on the Rudge-Whitworth equipped car of the champion. Graphitoleo is one of Dixon's Graphite Automobile Lubricants that are giving users of automobiles, both commercial and pleasure, added miles to their cars and saving a great deal of the wear and tear that is caused by friction. It can be purchased of any first class dealer who carries auto supplies.



◆ ◆ ◆
YOU!

YOU tell me that there are many unpleasant things troubling you in the place in which you work. If you can answer without betraying a secret,—would you mind telling me if you ever knew of velvet being used successfully as a substitute for sandpaper?

The unpleasant, the hard, the trying, the temper-testing things are the sandpappy aids that smooth you off—that train you—that fit you to shoulder bigger responsibilities and to resist more trying troubles later on. So be very thankful for the sandpaper.—*Thomas Dreier, in Printing Arts.*

Music Everywhere

IF we may judge the whole industry by the activity of one manufacturer of player actions for pianos, Santa Claus will have to use a fleet of trucks to deliver all the player pianos for Christmas. Evidently some of our fellow countrymen have profited from their War Babies and intend to celebrate.

The writer was recently privileged to go through the plant of the Standard Pneumatic Action Company of New York City, who build the mechanical players that are incorporated into so many of the well-known pianos on the market. Their actions are in such great demand that the factory is working three shifts a day in an attempt to fill orders.

A pneumatic player action is a combination of very delicate mechanisms, and naturally the parts require a lubricant that will insure noiseless operation—permanently. The surfaces to be lubricated are principally wood against wood, although in some places they are wood against leather, felt or cloth. For this service the standard lubricant has always been DIXON'S PIANO ACTION GRAPHITE (fine flake graphite).

The graphite is applied in the form of a paste, mixed with water, stale beer, shellac, turpentine or some other suitable liquid, and allowed to dry on the work. It is then polished by rubbing briskly with a piece of wood or metal. Wood surfaces may be polished with dry graphite by means of a wood or metal block covered with leather.

The above methods are used to lubricate the under side of wippens and the ends of the jack sticks in ordinary piano actions; the motor slides, the valve seats and covers of tempo boxes, gate boxes and governor valves of pneumatic piano player actions; organ slides, etc. Oil or grease should not be used on any wooden parts.

Dry graphite is rubbed on the inside edges of air pumps to prevent squeaking and sticking of the bellows.

All metal parts that operate in connection with other metal parts are lubricated with DIXON'S GRAPHITOLEO No. 692. This includes piano stools, treadle bearings, the transmission chains and gears of the air motors of player pianos, gear on the take-up spool, etc. Every one who owns a player piano should have a tube of DIXON'S No. 692 to keep the motor gears running smoothly and quietly. It may be obtained at hardware or sporting goods stores.

Graphite, a cousin to the diamond, has a multitude of useful applications. We can not even enjoy our music without its aid.

The Ten Demandments

1. DON'T lie. It wastes my time and yours. I am sure to catch you in the end, and that end is the wrong end.
2. Watch your work, not the clock. A long day's work makes a long day short; and a short day's work makes my face long.
3. Give me more than I expect, and I will give you more than you expect. I can afford to increase your pay if you increase my profits.
4. You owe so much to yourself you cannot afford to owe anybody else. Keep out of debt, or keep out of my shops.
5. Dishonesty is never an accident. Good men, like good women, never see temptation when they meet it.
6. Mind your own business and in time you 'll have a business of your own to mind.
7. Don't do anything here which hurts your self-respect. An employee who is willing to steal for me is willing to steal from me.

8. It is none of my business what you do at night. But if dissipation affects what you do the next day, and you do half as much as I demand, you 'll last half as long as you hoped.
9. Don't tell me what I like to hear, but what I ought to hear. I don't want a valet for my vanity but one for my dollars.
10. Don't kick if I kick. If you 're worth while correcting you 're worth while keeping. I don't waste time cutting specks out of rotten apples.—*Author Unknown.*

The New Dime

THE impression of the *Porto Rico Progress* of the new dime is that of a picture in a shadow box. In order that he might bring out the face of Liberty the artist has sunk the obverse side of the coin bowlwise and the indentation at the edge is deep, though graceful. The concave surface gives play to lights and shadows while the dime is new. Hold it one way and Miss Liberty, darkly beautiful, swims in a silver sea. Hold it another way and her face shines brightly from the surface of a shadowed pool.

The wear on the coin will not be on the cheek of Liberty, as it was in the old design, but on the edge of her cap, which is more like a motoring helmet than the former fashion in headdress for this important lady. The cap covers her ears, and the wings on it suggest that she is in sympathy with the modern pace.

Standpipe, Norfolk County Water Company, Dennys, Va.

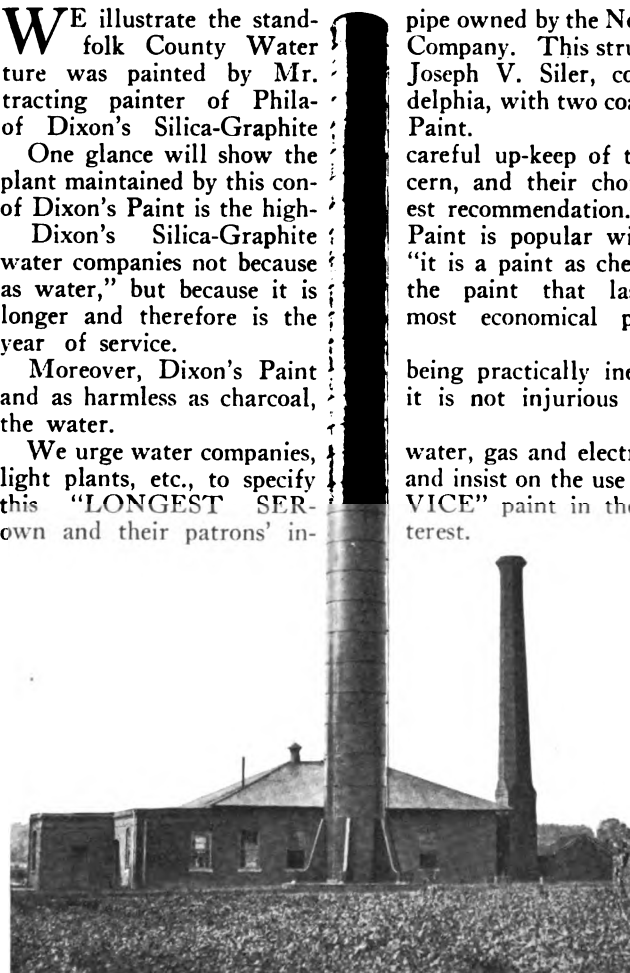
WE illustrate the standpipe owned by the Norfolk County Water Company. This structure was painted by Mr. Joseph V. Siler, contracting painter of Philadelphia, with two coats of Dixon's Silica-Graphite Paint.

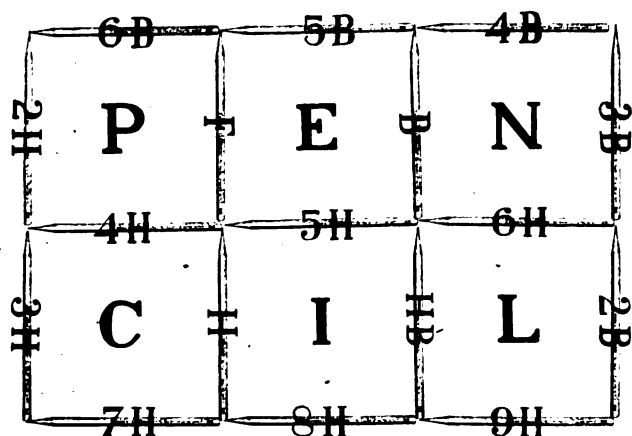
One glance will show the careful up-keep of the plant maintained by this company. Dixon's Paint is the highest recommendation.

Dixon's Silica-Graphite Paint is popular with water companies not because "it is a paint as cheap as water," but because it is the paint that lasts most economical per year of service.

Moreover, Dixon's Paint being practically inert and as harmless as charcoal, it is not injurious to the water.

We urge water companies, light plants, etc., to specify this "LONGEST SERVING" paint in their own and their patrons' interest.





A GREAT friend of GRAPHITE, Mr. Geo. E. B. Putnam, of Boston, Mass., sent in the above diagram the other day, which admirably fits our "Eldorado" pencil inasmuch as there are 17 pencils in use, each pencil of a different degree of hardness, just the same as there are 17 degrees of hardness in the "Eldorado" pencil.

Now, the puzzle is to take the 17 "Eldorado" pencils and lay them out in the same way as the diagram, and give each square a letter.

1st — Take away	1 and leave	5 perfect squares
2nd — " "	2 " "	5 " "
3rd — " "	3 " "	4 " "
4th — " "	4 " "	4 " "
5th — " "	4 " "	3 " "
6th — " "	5 " "	4 " "
7th — " "	5 " "	3 " "
8th — " "	6 " "	3 " "
9th — " "	7 " "	3 " "
10th — " "	9 " "	2 " "
11th — " "	9 " "	1 " "
12th — " "	10 " "	2 " "
13th — " "	13 " "	1 " "

In each case return all the pencils before taking away for the next problem.

To anybody sending in a complete and perfect answer to this, we will give a full size sample of the "master drawing pencil," known as "Dixon's 'Eldorado.'"

Let us hear from you.

Dixon's Silica-Graphite Paint for Automobiles

AN experienced automobile owner of Liberty, N. Y., writes the Dixon Company as follows:

"I painted my automobile chassis with two coats of Dixon's Paint. The test has proven very satisfactory, for the paint is wearing like iron.

"I have recommended Dixon's Silica-Graphite Paint to many people and use much of it myself with excellent results."

Dixon's Paint is now being used by automobile concerns to protect the following parts:

Chassis,	Engine cylinders,
Engines and under parts,	Tire rims, to keep tires from sticking.

REMEMBER that Dixon's Silica-Graphite Paint "wears like iron"; resists rust, dampness, etc., and wears better than any other paint. It is distinctly the best automobile paint for the above purposes. Be sure and use it on your automobile, and if your dealer does not carry it, please write the Dixon Company.



St. John's Lutheran Church,
Hagerstown, Md.

DIXON'S Silica-Graphite Paint was applied to the metal section of the roof of this attractive church building in 1898, and it gave ELEVEN YEARS' SERVICE.

Naturally, therefore, when the roof was repainted in 1909, Dixon's Paint was again used, and it has given seven years' service, with the likelihood of many more years' service to come, as the paint is in good condition.

This is the way in which Dixon's Silica-Graphite Paint lives up to its advertising as the LONGEST SERVICE paint and therefore the most economical per year of service.

As the Dixon Company makes no second grade, the user of Dixon's Paint has a guarantee of FIRST QUALITY, which no other concern gives that we know of.

Therefore be sure to specify and use Dixon's Silica-Graphite Paint on all metal work, whether on church, factory plant, home, office building, tank, or whatsoever kind of metal work.

◆ ◆ ◆

DURING 1916 there were 600,000 bicycles made, against 300,000 in 1915. More "bikes" would have been made in 1916 except for the shortage of tubing and of labor. The bicycle manufacturers expect to make 1,000,000 bicycles for 1917. This number would represent a gross business of about \$25,000,000.



"Cleanin' out boiler scale,"
soliloquized Old Jerry, as he
 scanned the recently scraped
 bowl of his pipe, "with them
 there chemical mixtures is
 contaminatin' to steam just
 as a tongue-bitin' tobacker is
 contaminatin' to pipe smoke.
 For cleanin' drums and tubes
 easy and gentle-like with no
 foamin' feed water there's
 nothin' better'n th' harmless
 mechanical action of

DIXON'S BOILER GRAPHITE

'the pioneer'"

**Made in JERSEY CITY, N. J., by the
 JOSEPH DIXON CRUCIBLE CO.**



ESTABLISHED 1827
 Write for booklet 190-T



Lumber Mill

A. Mason & Sons, Peru, N. Y.

THE public is most interested in the lumber, therefore that is shown in the foreground. But the mechanical man is most interested in the power plant, the smokestack of which looks diminished in the background but is there nevertheless and requires paint-attention.

Dixon's Silica-Graphite Paint is the best protective paint for lumber companies and is widely used both on wood and metal surfaces because it is the most economical paint per year of service. **IT LASTS LONGER.**

We take pleasure in quoting the following testimonial and would urge other users to follow the example of this businesslike concern, which owns lumber mills other than this one, on all of which Dixon's Paint is used.

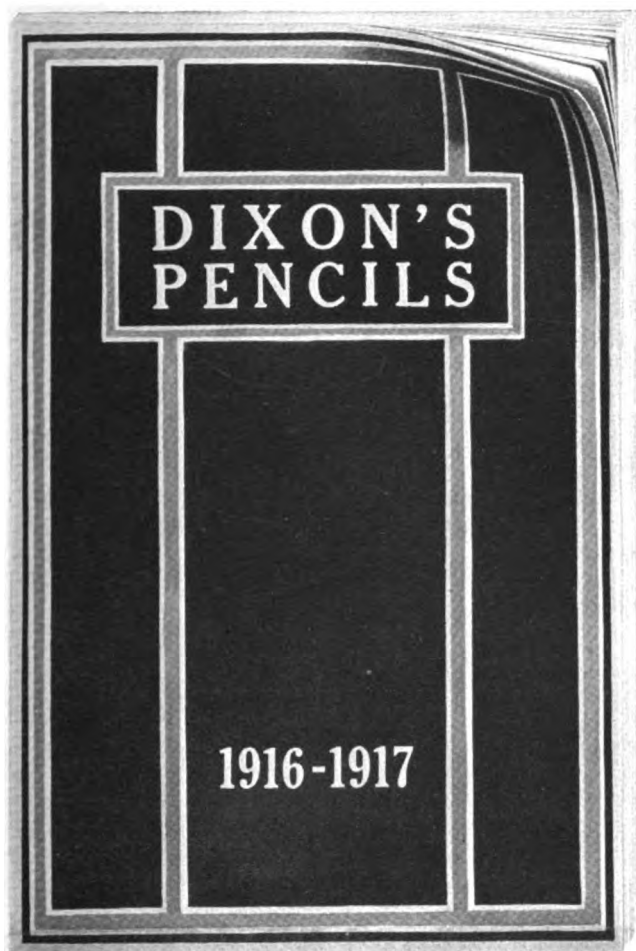
**A. MASON & SONS,
 PERU, N. Y.**

*Joseph Dixon Crucible Company,
 Jersey City, N. J.*

Gentlemen:

We are glad to say that we have used Dixon's Silica-Graphite Paint on the smokestacks of our mills for a number of years and have always found the service given by this paint very satisfactory.

Yours very truly,
 (Signed) **A. MASON & SONS.**



ONE of the most comprehensive and well-gotten-up pencil catalogs that has ever been produced is almost ready for distribution. This new pencil catalog faithfully portrays the extensive line of pencils, erasers and penholders of the Joseph Dixon Crucible Company.

The cover (shown above) is in black, blue and white and is of a conventional design. The catalog itself is a 56-page booklet containing a complete line of Dixon's world-famous pencils. There are 19 colored inserts that show the pencils in their true form; some of these inserts are devoted to the pencil displays that the Dixon Company has done so much with.

The new feature in this catalog is the addition of the Vocational Index. With this index it is possible for the dealer to pick out and recommend certain pencils for special uses; such as pencils for architects, engineers, draftsmen, bookkeepers, carpenters, general office and private use, photographers, salesmen, textile workers, etc.

In getting out this new catalog the Dixon Company has not overlooked their well-known line of "erasers that erase" nor their popular priced line of practical penholders, school and lumber crayons.

The edition is limited and dealers wishing a copy of this valuable booklet should send their names to us at once. Address Department 190-J.

SOME people learn from experiences; others never recover from them.

Some people never recognize misfortunes—that's why they succeed.

A piker these days is a man who lives within his income.

—Through the Meshes.

It Writes White!

upon blueprints, photo album paper, photo mounts, gray and other dark-colored drawing papers

For Amateur Photographers

and photo album owners who appreciate what can be done in the way of lettering titles and decorating album pages with Dixon's Best White No. 352. Upon mounts of dark stock Dixon's Best White No. 352 is also an excellent medium for the photographer's signature. Dixon's Best White eliminates the bothersome pen and bottle of white ink and its attendant troubles of scratching, spreading, catching, spilling, etc.

For Architects, Draughtsmen

and others who work upon blueprints Dixon's Best White No. 352 is an ideal marking crayon for making extensions, alterations and other changes, including foot-notes and memoranda. In its use is found relief from the frequent complaint of color-blindness caused by other colors, such as red.

For Drawing Teachers

who desire to have their pupils obtain the highly artistic effect of black and white upon gray-colored drawing paper Dixon's Best White No. 352 is just the thing with which to secure the high lights, borders, etc.

For Tailors, Dressmakers

and others who mark upon cloth Dixon's Best White No. 352 is, in fact, almost a work-bench and household necessity. The housewife who keeps Dixon's Best White No. 352 in her work-basket will find innumerable uses for it.

Ask your stationer, photographer or school superintendent or send 10 cents in stamps

**Made in JERSEY CITY, N. J., by the
JOSEPH DIXON CRUCIBLE CO.**

ESTABLISHED 1827



Why Good Oiling is Desirable

VALVES and cylinders of steam engines require various amounts of oil according to the condition of the surfaces exposed to friction. Some cylinders, for this reason, require more oil than others, although of the same size and type. Also, it is absolutely necessary that this oil be fed to the cylinders at just the right time as well as in sufficient quantities.

Any quantity of oil delivered into a cylinder in excess of what is required to lubricate its surfaces passes out with the exhaust and unless condensed and separated is wasted. The proper regulation of this is hardly possible without some positive system of lubrication.

While an installation of the necessary equipment to do this may appear to cost considerable money many executives consider it pays.—*S. E. H. in "Factory," Dec., 1916.*

As a matter of fact, the proper regulation of the oil supply to cylinders of steam engines, compressors, gas engines, etc., is simple and inexpensive. It is not even necessary to change the present lubricating system. Simply equip the engine with one of the special graphite lubricators that are designed to feed Dixon's Flake Graphite. If you do not know where to get them, we will be glad to tell you.

The new lubricator feeds graphite and the old one feeds oil. The combination saves so much oil as to quickly pay for the graphite and the new lubricator. In fact, the graphite lubricators are guaranteed to save at least half of the oil bill.

There is no oil in the exhaust steam to be wasted or to get into boilers. The operation of the engine is vastly better, due to smooth movement of valves and the lessened strain on valve gear. The piston packing lasts indefinitely. All due to a few flakes of graphite judiciously applied.

◆ ◆ ◆

[TELEGRAM]

NEW ORLEANS, LA., Nov. 21, 1916.

Joseph Dixon Crucible Company, Jersey City, N. J.

Circular track racing season closed here yesterday when thirty-five thousand people congregated at the National Farm and Live Stock Show to see great program of Auto Races in which nineteen cars competed. Every machine entered used Dixon's Graphite Auto Lubricants.

Over two million six hundred thousand people have visited auto race meets held in connection with State Fairs this year and every car that competed was enrolled in the list of enthusiastic users of your Graphite Lubricants. The wonderful performances of these cars and the records made speak well for your products.

J. A. SLOAN, *Mgr.,*
International Motor Contest Assn. Race Meets.

Cuba

THE Bureau of Information, Commerce and Labor, Havana, Cuba, in its statement about Cuba, prints, together with considerable other information, the following:

Cuba is approximately 760 miles long. Area, 45,881 square miles, a trifle larger than the State of Pennsylvania.

Cuba's sea-coast is approximately 2000 miles long, with more fine deep water harbors than any other country in the western hemisphere.

In the fiscal year ending June, 1915, Cuba exported \$220,000,000, and imported \$126,000,000.

More merchandise enters and leaves the harbor of Havana than any in the United States except New York in normal times.

Cuba's annual sugar crop exceeds \$200,000,000. Her tobacco yield is valued at \$32,000,000.

Cuba produces in citrus fruits and vegetables \$5,000,000 annually.

It produces in pineapples, cacao, honey, asphalt, iron, henequen, mahogany, cedar, etc., \$10,000,000.

In ten years its exports have increased 150%. Its imports have increased in ten years 82%.

All but 15% of Cuba's exports go to the United States.

More than half of Cuba's imports come from the United States.

Since the beginning of the Republic, Cuba's foreign commerce has increased 250%.

In climate and healthfulness Cuba cannot be surpassed by any country in the world.

Range of temperature (mean), 12 degrees Fahrenheit.

January average, 70.3 degrees. July, 82.4. Extremes, 60 to 92.

Average rainfall, 54 inches. Dry in winter; showers in summer.

Population, 2,500,000. Yearly increase, about 75,000.

70% of population white, 30% colored.

There are no poisonous snakes or reptiles in the island.

Centigrade and Fahrenheit Thermometers

THE Centigrade thermometers are at the present time those used by scientific men in every country of the world, and are used in the physics and chemistry classes in all high schools and colleges. The Centigrade thermometer is also used in some foreign countries for registering daily temperatures. The Fahrenheit thermometer seems to be the one used by English-speaking nations or where the English language is the language of the people.

We read in the *Engineering Record* that the Hon. Albert Johnson has introduced in Congress a bill to provide for the abandonment of the Fahrenheit thermometer and the use of the Centigrade thermometer by all departments of the United States Government.

The freezing-point of the Fahrenheit thermometer begins at 32, the boiling-point is marked at 212. With the Centigrade thermometer the freezing-point is marked at zero and the boiling-point of water at 100. Hence the name Centigrade applied to that particular thermometer.

It is possible to have the graduations on the Centigrade thermometer larger than those on the Fahrenheit scale, which is a convenience. To hold to the Fahrenheit thermometer, based on unscientific empirical measurements, is not creditable, it is said, to an intelligent people; and as the Centigrade thermometer is in universal use, it is time all English-speaking countries fall in line with other countries and adopt a universal designation of temperature. Inter-course with other nations will be facilitated and conversion tables will be done away with. The present way of mentioning temperatures, with three thermometers in use, is prolific of mistakes, as there is another form of thermometer, known as the Réaumur thermometer, which is in common use in all parts of Russia, Germany and Spain to-day, although the scientific men and manufacturers in those countries use the Centigrade thermometer, and the Centigrade thermometer is the official Government scale.

Hon. Albert Johnson, mentioned above, asks that all scientific and technical men throughout the United States write their Representatives and Senators in Congress, as soon as possible, and urge that the change be made.

The Little Horse-Car on Bleecker Street

IF our friends from out of town who are only used to seeing electric trolley-cars desire to see one of the curiosities of New York City, all they need to do is to go down to Bleecker Street and see the little horse-car there, which is about fifteen feet long. It makes some three or four trips a day.

The reason of this curiosity is due to the fact that the line operating the horse-car on Bleecker Street is compelled to keep up a service, three or four trips a day, in order to hold its franchise.

Speed + Safety
Practically every racing driver of note uses
DIXON'S
GRAPHITE
Automobile
LUBRICANTS

With life, limb and success at stake, they take no chances on lubrication going wrong.
Can you afford to be less careful?

Ask your dealer for the Dixon Lubricating Chart
JOSEPH DIXON CRUCIBLE CO.
Established 1827
Jersey City, N. J.

Likes Both Kinds of Graphite

"HAVE had the pleasure recently of seeing a copy of GRAPHITE and enjoyed its contents. As you offer to send it to any address upon request, would like to have my name entered upon your mailing list.

"We use lots of Dixon's Graphite for cleaning space bands on our linotype machines and find that there is nothing to take its place."—*Thomas B. Singreen, with W. H. Coyle & Company, Houston, Texas.*

♦ ♦ ♦

"A FOOLISH consistency is the hobgoblin of little minds adored by little statesmen and philosophers and divines. With consistency a great soul has simply nothing to do. He may as well concern himself with his shadow on the

wall. Out upon your guarded lips! Sew them up with pack-thread, do. Else if you would be a man speak what you think to-day in words as hard as cannon balls, and to-morrow speak what to-morrow thinks in hard words again, though it contradict everything you said to-day. Ah, then, exclaim the aged ladies, you shall be sure to be misunderstood! Misunderstood! It is a right fool's word. Is it so bad then to be misunderstood? Pythagoras was misunderstood, and Socrates, and Jesus, and Luther, and Copernicus, and Galileo, and Newton and every pure and wise spirit that ever took flesh. To be great is to be misunderstood."—*Ralph Waldo Emerson in "Essay Upon Self-Reliance."*

What Five Dollars a Month Will Do

FIVE dollars, deposited monthly at four per cent., will amount in

5 years to	\$337.98
10 " "	749.18
15 " "	1,249.47
20 " "	1,858.15

When once you get the habit of saving it is easy to save. If you will make up your mind that it is of no use and mighty little fun to draw smoke into your mouth and blow it out again, you can save more than enough in cigars and cigarettes to carry out the above savings scheme.

Obedied Instructions

THE teacher of a large school sent one of her pupils to buy a pound of plums from a fruit vender outside, relates the *Buffalo Enquirer*, and as she handed the little girl ten cents, said:

"Be sure, Mary, before buying the plums to pinch one or two, just to see that they are ripe."

In a little while the girl returned with flushed face and a triumphant look in her eyes. Handing the teacher the bag of plums, she placed the money on the desk and exclaimed:

"I pinched one or two, as you told me, and when the man wasn't looking I pinched a bagful."

The Reason Why

AN English militant crusader strolled into a barn where a young man was milking a cow. With a snort she asked: "How is it that you are not at the front, young man?"

"Because, ma'am," answered the milker, "there ain't no milk at that end."

GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"WE have your letter of Nov. 23d. The sample pencils which you sent us proved satisfactory in every way, and we will be pleased to recommend them to our local stationer."

"WE wish to thank you for the sample drawing pencils, Dixon's 'Eldorado' and 'Best White,' and find them of the best quality and entirely satisfactory."

"I HAVE found the pencils to be entirely satisfactory for sketching and the smoothness of the graphite gives excellent results in shading."

"I HAVE given them as severe a test as I think any pencil could get, as I have some very complicated detail drawing to make on rough Manila paper. I will say that I used your 'Eldorado' grade H4 for 10 hours with but one sharpening, whereas before 15 minutes was the longest any pencil of the same grade would hold good."

"IN answer to your letter of the 16th inst. concerning the samples of pencils recently sent us for use in our drafting department, beg to advise that we have given these the most thorough trial and find them to be very high class in every particular, and we shall be only too glad to specify them on our next order."

"I WILL use no other pencil as long as they keep to their present standard and I have secured three (3) boxes already from our stationer."

"I HEREWITH acknowledge receipt of pencils which you sent me some time ago. They were satisfactory. I am now using my first dozen. Could not ask more of a pencil—they meet all of my requirements."

The above are extracts from some of the letters that have been received by the Pencil Department. Every one of them is genuine.

**Hail! The Racing
Champion of 1916**

**DARIO
RESTA**

Is His Name



In all of his gruelling, nerve racking races this year against time, the greatest factor he had to overcome was FRICTION.

DIXON'S
GRAPHITE
Automobile
LUBRICANTS

WERE HIS ABLE ASSISTANTS IN EVERY RACE

RESTA WON

Indianapolis 300-Mile Sweepstakes Race, averaging	83.26 miles per hour			
Chicago 300-Mile Motor Derby,	" 98.20	"	"	"
Omaha Speedway Race, 150 Miles,	" 99.02	"	"	"
Chicago 250-Mile Sweepstakes Race,	" 83.99	"	"	"
Vanderbilt Cup Race, 294 Miles,	" 86.99	"	"	"

Resta says: "Dixon's Graphite Automobile Lubricants give wonderful lubrication. I cannot praise them too highly."

This is a little sermon that all car owners should profit by, and should be conclusive evidence that Dixon's Graphite Automobile Lubricants eliminate friction and prolong the life of every car.

Send for Booklet No. 190-G, "Words of Wisdom from the Speed Kings"

JOSEPH DIXON CRUCIBLE CO., Jersey City, New Jersey

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G R

Geology
Nat hist

Graphite

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FEB - 6 1917

VOL. XIX.

FEBRUARY
1917

No. 2.



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1888



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



OFFICERS

GEORGE T. SMITH President
GEORGE E. LONG Vice-President
J. H. SCHERMERHORN Vice-President
HARRY DAILEY Secretary
WILLIAM KOESTER Treasurer
ALBERT NORRIS Ass't Sec'y & Ass't Treas.

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ROBT. E. JENNINGS

OFFICES AND SALESROOMS

NEW YORK SALESROOM 68 Reade Street
PHILADELPHIA SALESROOM 1020 Arch Street
SAN FRANCISCO SALESROOM 155 Second Street
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ST. LOUIS OFFICE 501 Victoria Building
BALTIMORE OFFICE 616 Professional Building
BUFFALO OFFICE, 409 Erie County Savings Bank Bldg.
ATLANTA OFFICE 328 Peachtree Street

EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

SOUTH AMERICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine
Alfredo J. Eichler, Calle Huerfanos 761, Santiago, Chile

CUBAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

William Croft, Room 424 Lonja del Comercio, Havana

PORTO RICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

H. Glyde Gregory, Royal Bank Building, San Juan

LATIN-AMERICAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

National Paper and Type Company, 31-35 Burling Slip, N. Y.

With Branch Agencies in Mexico, Ouba, Peru, Argentine, Uruguay, Venezuela, Porto Rico and Colombia

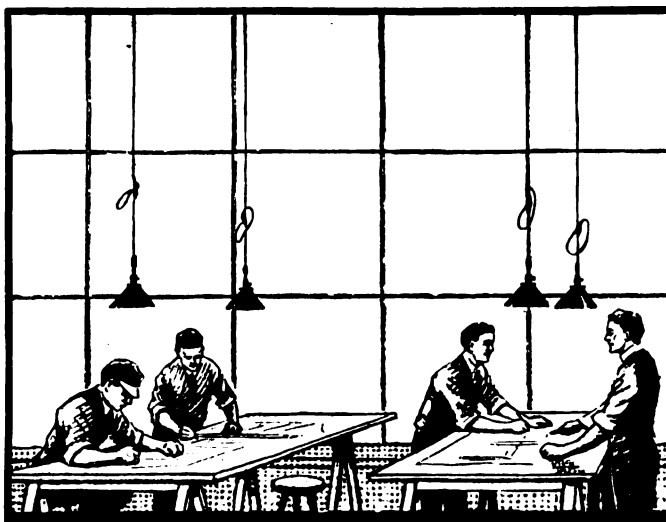
CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

A. R. MacDougall & Co., Ltd., 266-8 King St., West, Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.



The Efficient Drafting Room

Many men, working together on delicate drawings, must necessarily focus their energy on the work alone. A lead that breaks, or crumbles the smallest bit, or has the slightest trace of grit, must be thrown aside.

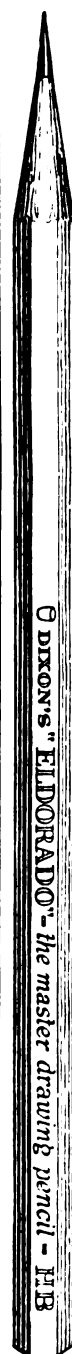
DIXON'S ELDORADO

"the master drawing pencil"

can be depended upon for the most difficult pencil work. In any of the 17 grades there is the same uniform quality that makes Dixon's Eldorado the best pencil for the most efficient drafting room.

Full-size samples sent on request on your letter head; please specify degrees chiefly used.

JOSEPH DIXON CRUCIBLE COMPANY
Dept. 190-J Jersey City, New Jersey



DIXON'S BEST WHITE No 352
writes white on blueprints



Vol. XIX

FEBRUARY, 1917

No. 2

Things to Know About Trade-marks

SOME six years ago the J. Walter Thompson Company, the well-known advertising agency, published a booklet under the above title. We trust that Mr. J. Walter Thompson, the President of that Company, will forgive us for taking a few extracts from his copyrighted booklet.

Concisely stated, the functions of a trade-mark in advertising are as follows:

1st. As a certificate of genuineness of the product to which it is affixed. *This protects the public.*

2nd. As an identifying mark, owned by the manufacturer, and in the ownership of which the law protects him in order that no competitor may reap the advantage of the selling effort and advertising put forth by the owner of the trade-mark. *This protects the manufacturer.*

Therefore, a trade-mark is a device for protecting both the manufacturer and the public from fraud. The force of *recognized distinction* is one of the most valuable assets in every field of human endeavor.

It is a quality of the human mind that the most *profound impressions are made by things*—not by abstract ideas. Consequently, successful advertising must be tied hard and fast to a name or a trade-mark, and this trade-mark must be distinctive, and not easy to confuse with something else. It must be easy to remember, *and it must identify the advertised product.*

The trade-mark is the connecting link between the manufacturer and the ultimate consumer. By the use of trade-marks, widely advertised, manufacturers are able to build up a trade that becomes, to a great degree, independent of jobber, wholesaler, and retailer. In the public mind a trade-mark grows, in time, to mean a certain standard of quality, workmanship and material.

Advertised products are generally higher in quality than similar products that are not advertised. The reason is that an investment in enough advertising space to make any commodity known nationally requires a considerable outlay of money, besides a well-developed selling organization to co-operate with the advertising and harvest its results.

The manufacturer who is investing money in advertising year after year feels that he has too much at stake to endanger his possibilities by putting out inferior goods. He is looking far into the future.

Consequently it is not surprising to find that the best

merchandise on any retailer's shelves consists of advertised goods, and that, moreover, concerns that advertise have the most efficient sales organizations, as well as the most enlightened relations with retailers and the public.

The best trade-mark ever devised is not worth a cent until it has become known as an identifying mark of a commodity. A trade-mark has no inherent, natural value. Whatever it is worth is the result of advertising in some form, plus the desirable qualities of the goods that it represents.

In February, 1905, Congress passed an act entitled "An act to authorize the registration of trade-marks used in commerce with foreign nations or among the several States or with Indian tribes, and to protect the same."

This act is known as the United States Trade-Mark Law. Its provisions should be known to every manufacturer or advertiser who is using, or who intends to adopt, a trade-mark.

Property in trade-marks does not rest upon the statute, but upon the common law. The purpose of the statute (or act) of 1905 is to systematize the registration of trade-marks, and to provide a definite procedure both for recording and protecting them. A trade-mark may be legally valid without having been registered.

It is quite possible that the J. Walter Thompson Company of New York may still have on hand some copies of the pamphlet from which we have taken the above quotations, and if so it will pay any one interested in the matter of trade-marks to get a copy of this publication.

Our Cover Picture

THROUGH the courtesy of the Percival K. Frowert Company, Inc., at 151 West 42nd Street, New York City, we have been able to obtain one of the pictures of a series that were drawn by H. D. Nichols for the Ehrich Galleries at 707 Fifth Avenue, New York City. The Ehrich Galleries have for many years specialized in the pictures of Old Masters, and they found that the work of Mr. Nichols particularly suited their purposes.

Mr. H. D. Nichols, whose studio is at 114 East 13th Street, is considered to be one of the foremost pencil artists in this country. Needless to say, Mr. Nichols uses Dixon's "Eldorado," "the master drawing pencil." A glance at the cover again will readily show the superb tone and degrees of shading that can be obtained by the use of the "Eldorado," "the master drawing pencil," when put into the hands of a professional such as Mr. Nichols.

Spirit of the Dixon Company

A SHORT time ago a gentleman, widely and largely connected with business organizations, made the remark that he had not in the last twenty-five years seen anything like the fine spirit toward the rights and welfare of all the people connected with any concern which he found prevailing throughout the entire organization covering general offices, factories, mills, mines, branches and salesmen of the Dixon Company.

When the Dixon Company, as it did on the first of January, handed to each employee, great and small, an extra pay envelope containing a month's salary, or a week's pay, as the case happened to be, it was only another evidence to the minds of all the employees of that spirit which protects in dull times and remembers in good times.

Furthermore, the Dixon Company carries life insurance for all of its employees, safeguarding them against want and distress so that in case of death the family or beneficiary will receive equivalent in cash to a full year's pay of the employee.

EXCEPT a living man there is nothing more wonderful than a book! a message to us from the dead—from human souls we never saw, who lived, perhaps thousands of miles away. And yet these, in those little sheets of paper, speak to us, amuse us, terrify us, comfort us, open their hearts to us as brothers.

Quite Natural

"OLD friends are best."
"I know. Still, we all like to make new friends. We can chuck a bluff before them for a while. The old friends have our number."
—*Louisville Courier-Journal*.

When Ma is Sick

WHEN Ma is sick she pegs away;
She's quiet, though, not much t' say.

She goes right on a-doin' things,
An' sometimes laughs, or even sings.
She says she don't feel extra well,
But then it's just a kind o' spell.
She'll be all right to-morrow, sure,
A good old sleep will be the cure.
An' Pa he sniffs an' makes no kick,
For women folks is always sick.
An' Ma, she smiles, lets on she's glad—

When Ma is sick it ain't so bad.

—*Monroe County Appeal*.

The Unique Feature of the Parcel Post Business

WE read that out in the far West they have discovered the extreme usefulness of the parcel post over other modes of conveyance. We read of shipments being made through the parcel post of enough facing brick for the construction of a two-story business block. The bricks, which were made by a Salt Lake brick company, were shipped in packages of ten bricks each. The postage per parcel was 52 cents. The brick crates weighed 48 pounds apiece, and were taken 55 miles by automobile stage. 11,000 bricks were sent for the one building. In addition to bricks, such commodities as scythes, pumps, automobile tires, canned goods, shingles and nails were shipped through the parcel post system.

Hardware Age for December 16th has a very interesting article entitled, "The New Postage—Trouble Ahead for the Parcel Post," written by Mr. W. L. Crounse.

Guarantees

IT is said that from the year 1560 B.C., the world had achieved 8,000 peace treaties, each one of which was supposed to inaugurate an era of perpetual peace and each one lasted a little over two years. The trouble with a peace treaty is that it does not at all guarantee peace.

It is further said that a ruler does not keep his word if by so doing he goes against his interests, or if the reasons that induced him to bind himself no longer exist.

In business life the best guarantee is the trade-mark and the reputation of the manufacturer or dealer. The Dixon Company does not attempt to guarantee any one of its many products—it does, however, guarantee to make good any defective article that has in any way escaped the scrutiny of our inspectors and left the factory defective or not up to the Dixon standard.

The Dixon Company is always prompt in considering any complaint, even though that complaint may be founded on bad handling of its crucibles by foundry men or on the unskilled application of Dixon's Silica-Graphite Paint by some painter. The aim of the Dixon Company is to make use of the very best materials in manufacturing goods of the very highest grade, and to serve its customers in the best possible manner with the view of retaining their custom and their friendship.

Eggs

SOME years ago, when William Jennings Bryan was promulgating his theory of sixteen to one, some one made the remark that hens and eggs were of vastly more interest to the people of the United States than the question of silver and its relation to gold.

This would seem to be proven by what F. G. Urner, editor of the *New York Produce Review*, has to say about eggs, which appeared in *The Evening Sun* one day in December. Mr. Urner tells us that few know the magnitude of egg production in this country or appreciate the volume of highly nutritious food material that it furnishes to the people. The annual production is now estimated at about 80,000,000 cases of 360 eggs each, or 28,800,000,000 eggs.

Placed end to end these would extend some 900,000 miles, or pave a strip four and a half feet wide around the earth at its greatest circumference.

The weight of a year's production is approximately 1,720,000 tons, and the hens of the country lay an average of more than 900 eggs every second of time, day and night.

A POSTAL card addressed "Dixon American Graphite Company, Makers of Lead Pencils Somewhere in New Jersey" reached us all right. It was written by Mr. C. J. A. Porter of Browning, Mo., who desired "to be shown" the value of some of the Dixon products, and not knowing our exact address, or even the name, made the venture as above.

Pencil Catalog's Reception

"WE have just received a copy of your new Pencil Catalog. It is a dandy and we congratulate you on its 'get-up'—so says one of the leading men in the trade.

When Pa is Sick

WHEN Pa is sick, he's scared to death,
An' Ma an' us just holds our breath.
He crawls in bed, an' puffs and grunts,
And does all kinds of crazy stunts.
He wants "Doc" Brown, an' mighty quick,
For when Pa's ill he's awful sick.
He gasps and groans, an' sort o' sighs,
He talks so queer, an' rolls his eyes.
Ma jumps an' runs, an' all of us,
An' all the house is in a fuss.
An' peace and joy is mighty skeerce—
When Pa is sick, it's something fierce.

—*Monroe County Appeal*.

New Officers

AT a special meeting of the Directors of the Joseph Dixon Crucible Company on December 22nd, Mr. Julian H. Schermerhorn, for a number of years Treasurer of the Company, was elected a Vice-President of the Company, and Mr. William Koester, who has for a number of years been Credit Manager of the Company, was elected to the position of Treasurer; both became effective January 1st, 1917. As Treasurer of the Dixon Company,



J. H. Schermerhorn

Mr. Koester entered the employment of the Dixon Company in the spring of 1880. It was his first position in business life and he began as mail boy. Later on he became messenger, and Mr.



Wm. Koester

E. F. C. Young, the President of the Dixon Company at that time, said that he never knew a more faithful messenger, one more prompt, or one with a better memory of his duties than Mr. Koester. Still later, Mr. Koester was promoted to the Billing Department of the Company. From the Billing Department he entered the Credit Department and soon became head of that Department. He has represented the Dixon Company at the various meetings of the

Credit Men's Association and won for himself and for the Dixon Company much praise for his judgment and ability.

GRAPHITE wishes them all success.

"Imperator," World's Largest Steamship, Rusty Because Paintless

MISS MADELINE DOTY, representative of *The New York Tribune*, writing in that paper concerning her recent trip around Hamburg harbor, said: "The great steamship *Imperator*, like a towering monster, lies in the harbor, rusty, paintless."

we have no doubt that Mr. Koester will prove the good judgment of the electors in electing him to that office.

As for Mr. Schermerhorn, little need be said, as the change in office does not make any change in the man. Mr. Schermerhorn has become widely known as a man of rare ability as an executive, and as a "mixer" and good fellow there are few his equal and none his superior.

Mr. Koester is an example of what a young man can do if he will make up his mind to read and study, to be industrious, and to "keep everlastingly at it."

How graphic a picture is contained in these laconic words! What a small thing is rust. A few letters spell it. A small patch starts it. The tell-tale redness, like a rash, grows and spreads.

The great *Imperator*, monarch of cost and luxury, speedy express steamship, is paintless, and behold! rust begins its deadly work.

Moral! The same danger, the same condition, exists with regard to any other mighty work or structure of metal, such as a bridge, building, or ship. Let the structure go paintless through a false idea of economy or through neglect, and immediately rust begins its deadly work. A structure is as strong as its most rusted bolt or beam which bears a main stress. If rust insidiously eats into some hidden part, the structure is so weakened that a dangerous collapse may suddenly ensue.

A reliable protective paint, which will last long in hidden places as well as on the outer surface, is what is needed; is the most economical in the long run; is the best rust insurance; is the best insurance against collapse through corrosion of parts. Such a paint is Dixon's Silica-Graphite Paint.

It is considered by authorities to be the best protective paint. It has been made by the Dixon Company for over fifty years in ONE QUALITY ONLY—THE BEST. Dixon's Silica-Graphite Paint has a world-wide reputation for use on all kinds of metal and wood needing protection.

It is worth the money, just as a fine automobile or a fine engine or a fine employee is worth the money, for superior service is worth a reasonable price.

Do not let arguments concerning lower list-cost deceive you. Dixon's Silica-Graphite Paint gives you most worth and longest service, saving in labor and material in the end.

Specify and use none but Dixon's Paint. It is the standard and the old reliable, wherever long service is required.



Chicago Great Western Railroad Elevator, Omaha, Nebraska

DIXON'S Silica-Graphite Paint was used on this large plant, both on the section constructed by the Minneapolis Steel & Machinery Company, and on that constructed by the Sykes Steel Company, Messrs. Gerskey & Dorney being the painting contractors.

The capacity of the elevator is 1,040,000 bushels.

Grain elevators like the Chicago Great Western require highest paint efficiency and lowest cost per year of service.

That is the reason why we are able to illustrate from month to month in GRAPHITE notable buildings and structures which are painted with Dixon's Silica-Graphite Paint, which is the standard service paint for metal and wood surfaces.

Be a user of it; insist upon it and use it in the original containers.

If your dealer does not carry Dixon's Silica-Graphite Paint, please write us and ask for illustrated literature and long service records.

From Hula Land

ON October 9th, 1916, the Hawaiian Convention of Sugar Factory Engineers met in Honolulu to discuss methods for the care and operation of the plants in their charge. We are sure our readers will be interested in the following extracts from two of the papers that were read:

BOILERS AND FURNACES

BY MR. ROBERT E. HUGHES

MR. HUGHES discussed boiler equipment in sugar factories in a very comprehensive manner. Under the subject of "Scale," he has the following to say:

"The fight against scale has been stubbornly waged, but scale has been the victor in nearly every instance. The effect of scale in a boiler ordinarily is to reduce both its steam generating capacity and its economy, since scale is not a good conductor of heat, and therefore diminishes the transmission of heat through the boiler plates and tubes. Scale in boilers therefore is a serious matter. In order to prevent its accumulation it is good practice to eliminate the scale-forming matter from the feed water before allowing it to enter the boiler. This can be accomplished mechanically by means of separators. At Puunene we have used Dixon's Flake Graphite this past year and find it to be an excellent scale preventative."

LUBRICATION

BY MR. J. REINECKE

"THE great majority of cylinder and piston troubles are due to improper lubrication frequently caused by the oil used not being suited to the conditions, and it sometimes happens that the trouble is not with the oil itself but with the method of applying the oil and the place where the oil is applied. It is quite a common practice to reduce the quantity of cylinder oil used to the least possible amount, thereby cutting down the oil bill, and in many cases this increases the friction of the engines, scores the cylinders, which increases the fuel bill, and instead of economizing by reducing the cost of lubrication, increases the operating expense by using more fuel and in repairs, etc.

"No matter how little cylinder oil you are using, far better results will be obtained with a smaller quantity, drop for drop, at a lower cost, by using a suitable oil with a force feed lubricator. The sight-feed or hydraulic lubricator has served its purpose, and to get better results a force feed lubricator, which makes it possible to regulate the feed by applying the same amount on each stroke and remains constant after it is once set, should be used. We have found a saving of from forty to fifty per cent. with force feed lubricators. It, therefore, pays to place the oil in the right place, and you will naturally require less oil, and the same applies in the case of your vacuum pans and boilers, which will have less oil to contend with.

"If an open feed water heater or hot well is used, the cylinder oil finds its way into the boilers and the animal fat in ordinary cylinder oil causes a coating on the boilers.

"If graphite is used in combination with pure mineral cylinder oil, the graphite will find its way into the boilers and tend to prevent the formation of scale.

"The thickest and best cylinder oil becomes thin when heated so that it squeezes out from between the surfaces it is supposed to lubricate. It has been our custom for years to use graphite in our main steam cylinders, thereby cutting the cost of the oil to a very low margin and yet maintaining the smoothest surfaces on the cylinder walls, piston, rings

and rods. This reduces the friction, which is the real reason for lubrication. It is not necessary to use a great quantity of graphite, for a small amount mixed with oil, or dry graphite fed directly in the cylinders, will thereby reduce the quantity of cylinder oil to a great extent."

Paint for Cars of Coal Companies

"GRAPHITE" reproduces with satisfaction the following testimonial:

STERLING COAL COMPANY,
PHILADELPHIA, PA.

Joseph Dixon Crucible Company:

You are respectfully advised that between July and October, 1913, our 100,000-lb. capacity steel coal cars were painted with Dixon's Silica-Graphite Paint and that it has given entirely satisfactory service, the cars being in very good condition.

STERLING COAL COMPANY,
(Signed) J. W. MCGINN, *Manager Car Equipment.*

In the December issue of GRAPHITE we illustrated the plant of the Lehigh & Wilkes-Barre Coal Company, showing why Dixon's Silica-Graphite Paint is popularly used by coal concerns, mining companies, etc., for coal breakers.

The above letter demonstrates that it is used similarly by coal concerns for steel coal cars.

The Dixon Company has received many letters telling of most satisfactory results from the use of Dixon's Silica-Graphite Paint on railroad bridges, etc.

We therefore urge users of protective paint to specify and use none other than Dixon's Paint and thus cut down their yearly cost of paint and cost of metal up-keep, because Dixon's LASTS LONGER and saves in labor and material, both of which charges make large holes in operating costs at the present time.

Paint for Gas Holders

OF course, it is Dixon's Silica-Graphite Paint, not only because it is popular, well known and recommended by gas companies, but because it is FIRST QUALITY, LONGEST SERVICE PAINT.

From all over the world the Dixon Company has received testimonials to this effect, and some of them, as space has permitted, have been reproduced in our house organ, GRAPHITE.

Please note the following testimonial covering eight years' service:

CITY GAS WORKS,
FREDERICKSBURG, VA.

*Joseph Dixon Crucible Company,
Jersey City, N. J.*

Gentlemen:

It gives us pleasure to state we have been using Dixon's Silica-Graphite Paint on our tank since it was built in 1905.

When first erected it was given one coat of oil in the shops, and one coat of Dixon's Paint when completed.

In 1908 it was given another coat, and again this year, making the time between painting eight years.

When painted this year, the general surface was good, and only in a few places did it show any rust, and we freely recommend it.

Very truly yours,
(Signed) CITY GAS WORKS.



Dixon and Dennison

RECENTLY the Dennison Manufacturing Company made for our Pencil Department a very attractive crêpe paper window trim featuring Dixon's "Eldorado"—the master drawing pencil. To show the crêpe paper trim in proper setting, the Dennison Manufacturing Company had their window dressing expert arrange a Dixon "Eldorado" display, using the mammoth cartons, signs, cut-outs, etc., that comprise the regular exhibit which we furnish to dealers.

The result was most gratifying, as will be seen from the illustration herewith.

Many of the dealers in Dixon's "Eldorado"—the master drawing pencil—will no doubt be glad to have such an attractive window display, and we shall be glad to hear from such dealers. It is requested that the width and depth of window be specified.

Another Pencil Problem

A MERCHANT having three sons and desiring to give them instructions in business, gave to each the following number of lead pencils with instructions to go out and sell them at exactly the same rate, and to return to him at the close of the day the same amount of money from the sales.

To the first son he gave fifteen (15) pencils, to the second, fifty (50) pencils, and to the third, eighty-five (85) pencils. At the close of the day they returned to their father each with the same amount of money and each having sold his pencils at the same rate. What was the amount they returned?

To those of our readers who send in the correct answer we shall be glad to furnish one of our "Eldorado"—master drawing pencils, free.

Thrift

WITHOUT me no man has ever achieved success, nor has any nation ever become great.

I have been the bedrock of every successful career, and the cornerstone of every fortune.

All the world knows me and most of the world heeds my warning.

The poor may have me as well as the rich.

My power is limitless, my application boundless.

He who possesses me has contentment in the present and surety for the future.

I am of greater value than pearls, rubies and diamonds.

Once you have me, no man can take me away.

I lift my possessor to higher planes of living, increase his earning power, and bring to realization the hopes of his life.

I make a man well dressed, well housed and well fed.

I insure absolutely against the rainy day.

I drive want and doubt and care away.

I guarantee those who possess me prosperity and success.

I have exalted those of low degree and those of high degree have found me a helpful friend.

To obtain me you need put out no capital but personal effort, and on all you invest in me I guarantee dividends that last through life and after.

I am as free as air.

I am yours if you will take me.

I AM THRIFT.—*American Bankers Association.*



**Standpipe, Norfolk County Water Company,
Norfolk, Va.**

THE above illustration shows the standpipe owned by the Norfolk County Water Company, attractively located in a grove of trees. This company is well known for the workmanlike care taken of its plant and the study it makes of scientific economy.

Scientific economy is another name for proved economy.

For instance, in protective paint: a cheap paint may and probably will peel off or disintegrate in the first year and the paint and labor are thus thrown away and the paint job has to be done all over again.

The Norfolk County Water Company painted their standpipe with two coats of Dixon's Silica-Graphite Paint, which is the longest lasting protective paint, costing less per year of service when you divide the many years of service into the FIRST COST. The contracting painter was Mr. Joseph V. Siler of Philadelphia, one of the most experienced and scientific men in his line, who chooses Dixon's Paint because it has won his approval after exhaustive tests. Mr. Siler is an authority on water company painting.

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HALF way through this month is St. Valentine's Day. It is on the 14th and we know of nothing better to write your Valentines with than an "Eldorado" pencil.

Removing Scale

THE effect of boiler scale in lowering the rate of heat transmission from the hot gases to the water has been pointed out so often that engineers are well aware of the fact that it lowers efficiency. The danger of overheating, and thus weakening the boiler metal, by allowing scale to accumulate in considerable quantities, has been explained again and again. From the viewpoints of thermal efficiency and safety, therefore, nothing new remains to be said. There is one phase of the matter, however, that seems to be less frequently adverted to, namely, the expense involved in removing incrustation. When scale and sediment have accumulated to such an extent that they must be cleaned out, the boiler is cut out of service, cooled, emptied, and opened, and the deposits on the plates and tubes are removed by hammers, picks, scrapers, and chisels, and by various forms of rotating cutters driven by steam, air, water, or electricity.

The cooling and emptying of the boiler involve a loss of all the heat stored up in the water and the setting, and the consequent change of temperature of the furnace lining cannot but prove detrimental to the brickwork. Moreover, an equal amount of heat must be expended, when the boiler is again put into service, to bring it up to the normal working condition. The opening of the boiler, to gain access to the interior, compels the breaking of joints at manholes and hand-holes, and the spoiling of gaskets that must be replaced by new ones when the boiler is closed after cleaning. The time and labor required for performing the actual cleaning of the metal surfaces comprise an appreciable item of expense, and in addition there must be taken into account the damage done to the tubes and plates by the cleaning tools. If the cleaners are of the mechanical type, they not only run up a bill for power required to drive them, but also represent a considerable initial investment. Considering the fact that the cleaning of a boiler is so expensive, it follows that there must be a certain most economical interval between cleanings for each boiler operating under a given set of conditions. If the boiler is cleaned too frequently, the gain due to more rapid heat transmission will be more than offset by the increased expense of cleaning; and if there is too long an interval between cleanings, the heat lost up the chimney will be excessive. The determination of the approximate time that may be allowed between cleaning operations, so as to obtain a desirable ratio between the heat saving and the expense of scale removal, is a neat little problem for the operating engineer.—*National Engineer*, Dec., 1916.

A surprisingly large amount of time and labor is saved in boiler cleaning in those plants where Dixon's Pioneer Boiler Graphite is used, because most of the scale can be easily removed. In our own plant there was a time when it cost 37 cents to clean each tube of the B & W boilers, whereas the present cost is only about 9 cents per tube, and the work is done by half the men in one-third the time. What was formerly a hard scale can now be turbed without difficulty. It used to take a man from three to four days to clean each drum, but now he cleans three drums in a day and a half. A wire brush does the trick.

Engineers will do well to consider the economy in time and expense brought about by the use of Dixon's Boiler Graphite.

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If you move, don't forget to let GRAPHITE know your address. If you are not receiving GRAPHITE regularly we will look it up.

Dixonizing the 1916 Automobile Racing Season

IN the 37 races that were held in the 1916 season under the auspices of the American Automobile Association Contest Board, 498 cars started, 238 finished, and of these 231 were lubricated with Dixon's Graphite Automobile Lubricants. As a matter of fact only one winning driver did not use Dixon's. His car finished in seven races, thus accounting for the seven winnings out of 238 Dixon lacked to make a perfect score. The American Automobile Association Contest Board awarded 22,720 points, of which 20,930 went to speed kings who used Dixon's Lubricants.

Dario Resta, the champion; John Aitken, the runner-up; and Eddie Rickenbacher, the three highest point winners, together won 10,450, or nearly half the total points awarded. Dixon's Lubricants are used and highly recommended by these three leaders.

112 of the 113 racing drivers used Dixon's Lubricants. None of these speed kings were on a salary, commission or prize award of any kind from the Dixon Company. They all knew the merits of Dixon's Lubricants and used them for no other reason whatsoever.

Racing is the supreme test for any accessory—it's the last word, the determining factor. A lubricant which has successfully stood the gruelling test that Dixon's Lubricants have in the 1916 season and in previous seasons should be considered the king of them all. Dixon's have stood purely on merit. They are supreme.

The greatest element that has to be contended with in automobile racing, as in any other form of automobile driving, is friction. Dixon's Lubricants practically eliminate friction and save the wear and tear on cars.

Owners of all classes of cars will find that by using Dixon's Graphite Automobile Lubricants, friction, which sends their cars to an early grave, will be minimized, their cars will run much smoother, last much longer, and repair and fuel bills will be reduced.

Increased Price for Dixon's Silica-Graphite Paint

WE care more for keeping the QUALITY up than we do for keeping the price down.

We believe most men would rather have quality than low cost, if quality means economy and if low cost means inferiority.

Prevent Joints from Corroding

TO do this, put up all pipe joints with graphite, use it on bolts and nuts, cover gaskets with it on hand-hole plates and use it on all joints and bolts in and around the front ends, and when you want to take the parts down they will come without the use of cold chisel and sledge. In making pipe joints, if some of the graphite gets inside the pipe it flows through as easily as oil, and does not harden into shot to destroy the efficiency of injectors, lubricators and what not. It is the only lubricant that does not burn away, and is especially valuable for wash-out plugs or other boiler joints. Another good point about graphite is that it can nearly always be found ready for use.

—*Railway & Loco. Engr.*

Dixon's Graphite Pipe Joint Compound is prepared for just such uses as mentioned above. It is all ready for use, hence is more convenient and less wasteful than mixing dry graphite and oil whenever a joint is to be made up. Several of the prominent railroads always have a can of Dixon's Graphite Pipe Joint Compound in every engine cab.

"Republic of Porto Rico"

PORTO RICO PROGRESS takes occasion to poke some well-deserved fun at American firms who apparently do not yet understand that Porto Rico is American territory.

It makes mention of communications that have been received from the United States addressed to the American Consul, Porto Rico, and letters that have been directed to Porto Rico, Cuba, and it adds that there is knowledge of a letter arriving in Porto Rico from New York bearing the emblem of the Allies—"Opened by Censor."

But for geographical ignorance and deplorable lack of knowledge of the United States as to what are and what are not its physical possessions, the prize goes to the firm that wrote a business letter with the address "Republic of Porto Rico." *Porto Rico Progress* suggests that it might not be out of place for some of the business houses of the United States to take up a correspondence course in American territory.

Quite Right

"BEIN' contented wif yoh lot," said Uncle Eben, "ain' no excuse foh not hustlin' to git de mortgage off'n it."—*Washington Star*.

The Latest "Don'ts"

Not Especially New, but They are Always Timely and Impressive

A. F. KNOBLOCH, general manager of the Cole Motor Car Company of Indianapolis, is a firm believer in the theory that anything with merit is worthy of care and good treatment. With this in view, he has prepared a series of "Don'ts" for automobile drivers and he does not hesitate to acquaint the public with them. Here are some of the "Don'ts" he offers:

Don't put oil in the engine without first making sure that it is free from dirt and lint.

Don't race the engine when it is not drawing the car. There is no worse abuse.

Don't neglect to keep the radiator filled with water. Also use a good anti-freeze solution in cold weather.

Don't neglect your tires; use the pressure gauge and maintain 70 or 80 pounds pressure.

Don't fail to inspect the level of liquid in the storage battery every two weeks.

Don't drive with your feet on the clutch or brake pedals.

Don't let your car stand with headlight full on. It is unnecessary and it runs your battery down.

Don't drive fast on slippery streets. Don't drive with fully retarded spark.

Don't start motor with wide open throttle or advanced spark.

Don't neglect the lubrication of your car. Watch your pressure gauge.

Don't drive fast around turns or over rough roads.

Don't apply brakes suddenly, except in cases of emergency.

Don't attempt to shift into reverse gear when going ahead.

Don't allow your clutch to engage suddenly.

Don't attempt to start motor with any of the transmission gears in mesh. Have gear shift lever in neutral.

Don't leave your ignition switch "on" when motor is not running.

Don't tamper with your carburetor unless you know it is out of adjustment, and not even then unless you know just what you are doing.

Don't fail to tighten up spring clip nuts at end of 800 or 1,000 miles.

Don't fail to tighten up all body bolts at end of every 800 to 1,000 miles.

GIVE your secretary a treat. Send 10 cents in stamps for samples of DIXON'S STENOGRAPHER PENCILS.

You Salesmen

WHEN the train pulls you in and you grab up your grip,
And the hackman is there with his old frayed-out whip,
And you call on your man and you try to be gay,
And all that you get is "Nothing doing to-day"—
Then you 're a PEDDLER!
By gad, you 're a Peddler.

When you get into town and you call on your man,
You ask, "Can he see you?"; and he says, "Sure I can";
And you size up his stock and he helps in the count,
And then tells you to send "The usual amount"—
Then you 're an ORDER TAKER!
By gad, you 're an Order Taker.

When you travel along and everything 's fine,
And you do not get up until half after nine,
Then you see each concern and talk of conditions,
And you write it all home with many additions—
Then you 're a TRAVELING MAN!
By gad, you 're a Traveling Man.

When you call on the trade and they 're grumpy and sore,
And swear they want nothing and will buy nothing more,
But you smile and you talk and you get them all right,
And send in their orders just the same every night—
Then you 're a SALESMAN!
By gad, you 're a Salesman.
—Isaac H. Blanchard, of the Blanchard Press,
New York.

Boiler Scale Troubles

Are Not Lessened by Prejudices of Boiler Inspectors—Writer
Objects to Alleged Expert Opinion—Complaints
Result in "Passing the Buck"

THE writer believes that it will be generally conceded that the scale problem probably causes more worry and trouble to the engineer of an industrial plant than any of the difficulties that he meets with in the conduct of his affairs. It is a problem that has confronted the users of steam ever since it was first used to generate power, and will probably always be present to some extent.

The engineer naturally is beset by many difficulties in attempting to find the proper scale remedy or solvent. This difficulty in itself is sufficient to cause him no end of trouble and worry, but it is frequently accentuated through the unfairness on the part of boiler inspectors. As I understand it, and as I have frequently been assured by insurance companies writing boiler insurance, the inspector is not allowed to condemn or recommend any particular scale remedy; but inasmuch as they so often positively forbid the use of certain material when the engineer is getting good results, it would seem to me that the insurance companies do not exercise sufficient restraint in this line.

Practically every manufacturer of boiler compound and boiler graphite has suffered more or less from such activity on the part of boiler inspectors, and if these inspectors were sufficiently well posted to pass expert opinions on matters of that kind, there could not be any great objection to such a practice; but the average boiler inspector is not an engineer of chemistry and therefore is not qualified to express the expert opinions that he so frequently attempts.

They have even been known to tell operators of steam plants that a high-grade boiler graphite would build up on

the flues of a boiler and form a non-heat-conducting coat which would cause the boiler to burn, bag or blister. If that inspector had been competent to pass an opinion on the subject he would have known that high-grade graphite is one of the best heat conductors known. As a matter of fact, it ranks next to metal, and for that reason crucibles are manufactured from graphite. They have also stated on numerous occasions that graphite would corrode metal, not seeming to realize that graphite is carbon in its most inert form, without chemical properties, and, therefore, could not exercise a corrosive influence. Graphite and linseed oil are used universally as a paint for protecting steel structures from all kinds of exposures, and most certainly if it exercised a corrosive influence it would not be put on metal to protect it from corrosion. It has been passed upon both as a protective pigment in paint and as a boiler scale remedy by some of the brightest chemical and mechanical intellects of the present day, and it looks totally unnecessary for a boiler inspector to add to the burdens of the engineer by making statements that are ridiculous on the face of them.

The writer knows of an instance where an engineer had been using a certain grade of boiler graphite in his boiler for about five years. This company had been given perfect inspection reports during the entire time the boiler graphite had been used. All of a sudden the inspector told the engineer that he had better stop using the graphite, because he had heard it caused corrosion. This engineer, however, happened to be a man who was competent to discharge the duties of his position and paid no attention to the inspector's recommendation. He is still using the graphite and still getting clean reports.

We know manufacturers of compound and of graphite have appealed to the insurance companies and almost invariably they get a reply that the inspectors denied ever having made such a statement, nine times out of ten flatly stating that the engineer has misrepresented the inspector. What the interests of the inspectors are in matters of this kind it is hard to determine, and why it is the insurance companies uphold them in such practices is equally hard to determine; but there should be some relief to an engineer who is constantly being harassed by incompetent opinions on expert subjects.—E. H. W. in *National Engineer*, Jan., 1917.

It Can't be Done

THE man speeded up to see if he could beat the train to the crossing. He could n't.—*Columbia State*.

The man struck a match to see if the gasoline tank on his automobile was empty. It was n't.—*Cincinnati Enquirer*.

The man thought his car was faster than the speed cop's motor cycle. He was wrong.—*New York Tribune*.

The race driver thought he could win the race without using Dixon's Graphite Lubricants. He lost it.

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"I HAVE often been asked to define the true secret of success. It is thrift in all its phases, and principally thrift as applied to saving. A young man may have many friends, but he will find none so steadfast, so constant, so ready to respond to his wants, so capable of pushing him ahead, as a little leather-covered book with the name of a bank on its cover. Saving is the first great principle of all successes. It creates independence, it gives a young man standing, it fills him with vigor, it stimulates him with the proper energy, in fact it brings to him the better part of any success—happiness and contentment. If it were possible to inject the quality of saving into every boy, we would have a great many more real men."—Sir Thomas Lipton.

WORM drive delivers great power, but develops excessive friction unless properly lubricated. Use

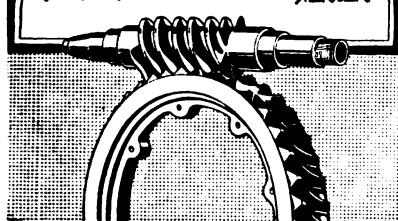
DIXON'S GRAPHITE Automobile LUBRICANTS

Dixon's 675 Gear Oil is the perfected lubricant for this type of drive. It keeps the gears happy and healthy.

Ask your dealer for the
Dixon Lubricating Chart

JOSEPH DIXON CRUCIBLE CO.

Jersey City, N. J.
Established 1827



Graphite in the Piano Player

THE other day we were asked whether graphite can be used safely on the slide valves and valve block faces of a player motor. It seems that a repair man has been having trouble with sticking motors just out from the factory and had come to the conclusion that the graphite rubbed on the valve faces was causing the trouble. We examined a motor of this make and found that apparently the graphite used was mixed with some other material, for the appearance was sooty and the feel distinctly greasy. The graphite which we have always used, and which we believe is used by the Standard Pneumatic Action Co. and many others of long and successful experience, is the pure powdered plumbago. This has a metallic sheen, is so fine as to be almost impalpable, and contains no foreign matter. When the finger is touched to a heap of this powder the clinging grains cannot be rubbed off, but immediately stick, the more closely the more they are rubbed.

When motor slides stick, our practice is to remove them from the valve face entirely and then rub down this with a sandpaper block until same is perfectly square, as may be seen by testing with a try-square. Then each slide should be rubbed down on the block till it is also square. Lastly, let a little of the pure powdered graphite be dropped on to the valve-block face and then well rubbed in.

We find that many tuners are using stick graphite, which has been made up into stick form by mixing with tal-low or some other hard grease. The results of using such a mixture on moving wooden parts cannot be other than disastrous. What will serve as lubrication for heavy metal machinery will hopelessly jam the light wooden parts of the pneumatic player action. Only pure powdered graphite, without the addition of any other material, should be used on moving parts of players where wood enters into the construction.—*The Music Trade Review.*

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Dec. 4, 1916.

Gentlemen:

We have yours of the 2nd relative to Boiler Graphite No. 2, and beg to advise you that we have still on hand plenty of this material to cover our requirements for some time to come.

We have stated to your Mr. Thurston that we are more than pleased with this material. We are using it regularly and cannot too highly recommend it for boiler use; in fact we do not see how our boilers could be in better condition than they are at the present time.

Yours truly,
ARKELL & SMITHS,
(Signed) D. A. BURNAP,
Asst. Mgr.

Dec. 4th.

Gentlemen:

In reply to a request from your Pacific Coast Manager regarding our experience in using Dixon's Boiler Graphite No. 2, will say as follows:

We use seven 70 horse-power boilers and have had trouble with scale to such an extent that we tried about everything we heard of, but with little benefit, until we finally got your Graphite, with the result that the boilers are now *clean*, almost as free from scale as when they were new. The boiler inspector told our engineer that they are freer from scale than any boilers he has inspected in a year.

Yours very truly,
MECCA OIL COMPANY,
(Signed) C. C. BOWLES, Mgr.

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IN May, 1914, The Susquehanna Coal Co. of Nanticoke, Pa., installed an Early Graphite Lubricator on their air compressor supplying air to the mines at a pressure varying from 800 to 1,000 pounds. Since this installation, no trouble from heating has occurred, and perfect satisfaction has resulted from the use of Dixon's Lubricating Flake Graphite in this compressor.—*Isaiah M. Morgan, Master Machinist.*

GOLDEN BOUQUETS

OR WHY

DIXON'S ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"I HAVE always used a — make of drawing pencil, but since the war has been on I had to change to some American-made pencil and for that reason I have been trying out the different American makes. I started out in my profession with a German and he taught me that there was not an equal of the — pencil, but I find your pencils *even better* and I intend to use them from now on."

"IN reply to your favor of the 28th, relative to Dixon's 'Eldorado' drawing pencils, I am pleased to advise that all of the offices which have used these samples are greatly pleased, and we intend in the near future to place orders for the various grades which we will use. Thanking you for your attention in this matter, which has been greatly appreciated."—*L. A. Miller, Stationer, Toledo, St. Louis & Western Railroad Company.*

"THE sample drawing pencils sent me have been received. If the appreciation in the architectural profession is like mine, your pencils should be a fixed feature in every office, for they are superior to any in the market or any I have ever used."—*James J. Farman, Architect and Engineer, Chester, Pa.*

"I RECEIVED your pencils 'Eldorado' and 'Best White' and I like them very much indeed, especially the drawing pencil; it is, I think, the smoothest pencil I have ever used."

"I THINK they are well named. I can say that I thought that the — was the greatest of pencils on the market, but I have easily persuaded our boys to use the 'master'; it has an evenness that I have not found in any other. I also speak likewise of your 'Best White.'"

WHEN you see a fence or any exposed steel or wood work, do you realize that its strength and length of life depend on exterior protection?

The protector is the paint, and the agents of attack are rain, snow, sun, dampness, acids, bad conditions, etc.

A paint which lacks durability will not withstand the action of these agencies, and will crack, peel and blister. Through these openings rust and decay eat their way, causing corrosion.

Dixon's SILICA GRAPHITE **Paint**
is said by users to be the best pro-

TECTIVE paint to withstand the above mentioned conditions of corrosion. That is why the F. E. Carpenter Company of New York, who designed and erected the fences illustrated, used Dixon's Silica-Graphite Paint.



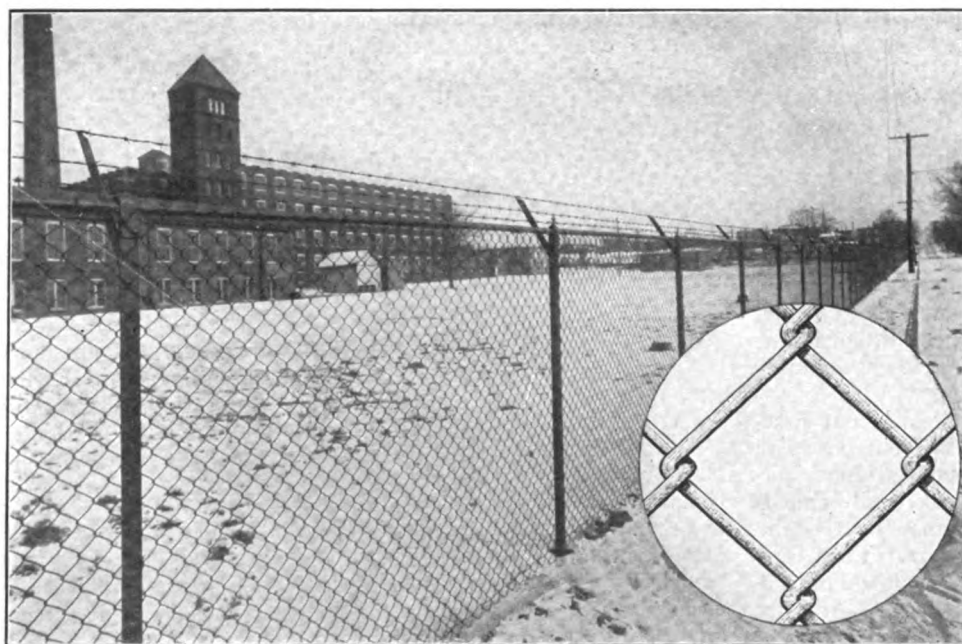
Dixon's Paint has been on the market for over fifty years. It is made in **FIRST QUALITY** only, no second grade. It shows the lowest yearly cost,

when you divide the many years of service into the **FIRST COST**.

Write us regarding paint economy.

Booklet No. 190-B is free to those who are interested in better and longer protection at a lower cost.

Made in Jersey City, N. J., by the
JOSEPH DIXON CRUCIBLE COMPANY
Established 1827



THE DE VINNE PRESS
NEW YORK

UNIVERSITY OF ILLINOIS LIBRARY
MAR 7 1917

Graphite

VOL. XIX

MARCH, 1917

No. 3



Long Wearing

With Dixon's Eldorado there's no need to worry about frequent sharpening—the leads wear long and hold a particularly fine point.

DIXON'S ELDORADO

"the master drawing pencil"

Write us on your letter head for free samples of your favorite degrees, compare them with any drawing pencils of the same degree you have ever used, and see which pencils last the longest, giving the best and most satisfactory service at the same time.

You need only to test Dixon's Eldorado to convince yourself that it is *"the master drawing pencil."*

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DIXON'S BEST WHITE No 352
writes white on blueprints

DIXON'S "ELDORADO" - the master drawing pencil - HB

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Graphite

The House Organ, not the Lubricant

We are revising the mailing list of "GRAPHITE." You are on this list and we want to keep you there if you are interested in "GRAPHITE."

We want to send "GRAPHITE" only to those who are interested, as advancing prices of all material entering into the publication have nearly doubled the cost.

Growing interest in "GRAPHITE" has increased the demand for it. It has a circulation nearly as large as some of the best known magazines.

We do not wish to waste it. We do wish to extend its influence. You can help us attain both these ends.

Please fill in now, before turning to anything else, the coupon below. Cut out and mail to "GRAPHITE," c/o The Joseph Dixon Crucible Company, Jersey City, N. J.

Five minutes of your time and a two-cent stamp is not too much to ask if you desire to remain one of the Dixon readers. We shall be grateful if you will tell us your reason, whether you do or do not ask us to keep on mailing "GRAPHITE" to you every month.

Please fill out these lines clearly:

Name
Street and Number
City State
My Reason

Cross out Yes or No

YES Remember: We want to keep you with us
NO

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868

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Physical Properties of Pigments

THIS is Which Affect the Permanency and Efficiency of Paint Coatings

Condensed from a Paper Prepared by

Mr. Malcolm McNaughton M. E. and Member of the Society of Testing Materials, and Read at the Meeting of the Maintenance of Way, Master Painters' Convention

not an attempt to call attention to chemical changes which occur either as the result of reaction between the pigment and the vehicle, or between the pigment and exterior substances, excepting to mention that when such changes result in changes in the volume of pigment particles, deterioration of the paint film must necessarily follow.

This paper is simply to call attention to such physical characteristics of pigment as have an effect on the permanency and efficiency of paint films when used for purely protective purposes.

In considering the matter of quality of pigments, we must not lose sight of the functions which the pigment performs.

The original use of pigments was almost entirely for decorative purposes, and this is true to-day, but in the matter of protective coatings this feature is of course of minor importance.

If oils alone were used, the resulting film would necessarily be very thin—much thinner than if a pigment were incorporated with it. In addition to increasing the thickness of the film, the pigment also protects the oil from mechanical and chemical exterior action, each pigment particle being in fact likened to a shield held in front of the oil to ward off the attacks of destroying agencies. It is the quality of this shield which should be considered.

The effects of differences in specific gravity are probably more noticeable in the facility with which the paint may be applied, and, consequently, the quality of the workmanship.

In case of an extremely heavy pigment, the difficulty of keeping the paint to a uniform consistency is materially greater than when a lighter pigment is used, and variations in consistency must necessarily lead to variations in the coatings. It must not be forgotten, however, that heavy pigments when ground extremely fine may be almost as easily kept in suspension as the particles of a lighter pigment

that is more coarsely pulverized.

On a horizontal or a nearly horizontal surface, it may be expected that there will be some settle-

ment of the pigment after application; but inasmuch as the very heaviest of pigments, that is, red lead, is to be considered as an excellent protector, this is probably of no serious consequence.

Paints made with extremely heavy pigments are comparatively hard to apply; they drag under the brush and inequalities of the coating result.

Graphite, with a specific gravity of less than one-third that of red lead, makes a paint which spreads with greatest ease. On account of its light weight it remains in suspension with the least amount of agitation.

The proper idea of fineness is that of a relation between total volume of pigment and total surface of pigment; that which has the greatest total surface should properly be considered as being the finest. If our ideas of fineness are based upon the amount of any pigment which will pass through a sieve of certain orifice, we are led to a wrong conclusion in the matter. It is entirely possible to produce a pigment all of which will stand on a screen of 180 meshes to the inch, which will be finer than another pigment, all of which will pass through the same screen, for the very reason that the former material is of an entirely different form and has a greater total surface. It has been stated that the natural or crystalline graphite makes a coarse pigment, but this is a case where appearances deceive. The natural crystalline graphite as it occurs in this country is usually in the form of flakes disseminated through a containing rock. These flakes are recovered from the rock by special methods of concentrating and are comparatively large. In reducing these flakes from say $\frac{1}{16}$ of an inch down to a size that will pass through a 200 mesh screen, it is clear that the thicker flakes must be broken or split into the thinner

laminæ. Microscopic examination shows this to be so, but an appearance of coarseness remains, for the reason that the bright surfaces of the crystalline flake reflect the light and make the pigment particles look larger than they really are.

The effect of light as a destructive factor, so far as the life of a paint film is concerned, is well known. No further proof of this is needed than the fact of the greater durability of paint on northern rather than on southern exposures. Of two pigments equal in all other respects, the more opaque will produce the more protective and durable paint. The results of tests conducted by the Society for Testing Materials at Atlantic City and other places indicate conclusively the very beneficial results of small quantities of dark pigment when added to white paint. Therefore, protective paints are usually dark in color and it is sufficient only to mention that graphite stands on the right side in this respect.

When a paint is freshly applied and dry, we may assume that the exposed surface consists of the vehicle only, as every particle of pigment is properly surrounded by a film of oil. In a greater or less period of time this surface oil has been more or less removed, exposing particles of bare pigment. If the pigment is of a very soft and friable nature, it will, of course, wear away more readily as a result of abrasion due to driven dust, wind, hail, sleet, etc. For this reason a pigment formed of flake silica and graphite ground to a proper degree of fineness should be the more permanent pigment, as flake silica associated with the flake graphite offers a resistance to wear the same as the copper alloy does to the wear of pure gold when the combination is made up in the form of rings, chains, etc.

We should also consider that characteristic of substances which causes them to absorb and condense moisture from the air without considering in any way the porosity of the paint film, which is largely the result of the porosity of the vehicle itself.

It is readily seen that a paint film made up from a hygroscopic pigment and a porous vehicle, might prove a very disastrous combination so far as protection to the underlying metal is concerned, when we consider that the active cause of corrosion is the simultaneous presence of air and water, and without these corrosion may be said not to take place.

It is a well known fact that certain substances resist wetting by water to a remarkable extent, while other substances seem to have a marked affinity for water in this respect. There is probably no substance used as a paint pigment that resists wetting to the same extent that graphite does. This fact is regularly made use of by miners and refiners of graphite in separating the latter from the earthy material with which it is associated. The ore, being finely ground, is allowed to fall gently on the slowly moving stream of water, the graphite floating away, while the other substances immediately become wet and sink.

During the past few years much investigating has been done to prove the electrolytic theory of corrosion. There is no doubt that a pigment which is a good electrical conductor, in contact with water and impure iron will stimulate corrosion. But with water absent, this cannot occur, so it is entirely possible to secure a good protector paint by the use of a pigment which is a good conductor of electricity and which at the same time is an excluder of moisture. Graphite is a conductor of electricity; it also resists wetting by water. The last quality is so marked that it largely overcomes the objection due to its being a conductor. Even the advocates of the inhibitive idea in paint coatings advocate the use of excluding carbon paints for final coats, using inhibitive paints next to the metal. This is an excellent

method, but it must not be forgotten that if a carbon or graphite paint on the outside will keep the priming coat dry, two coats of the excluding paint would all the more keep the metal dry.

Therefore, it should not be necessary to use any coating other than the graphite coating.

It is a most desirable quality that the pigment should firmly adhere to the oil with which it is incorporated. A mixture of graphite and silica thoroughly agitated with a mixture of mineral oil and water will cause the graphite to flocculate and remain with the oil film on top, while the silica can be found lying at the bottom of the water below.



“PHILOSOPHY of Protective Paint” is the title of this very interesting little booklet gotten out by the Paint Department. This booklet contains 24 pages of very interesting reading showing why Dixon’s Silica-Graphite Paint, for over 50 years the longest service paint, should be used for all protective purposes.

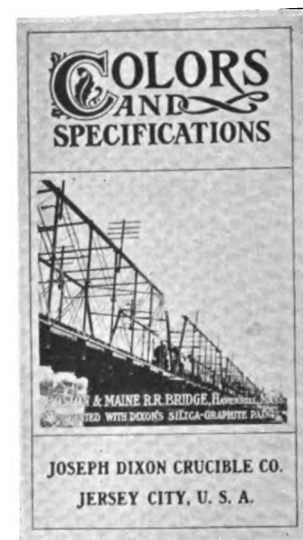
It deals with the Paint problem from an entirely new angle, and anybody who is contemplating using a paint for any protective purpose where unusual difficulties exist will find this little booklet invaluable.

To anybody who has a personal interest in protective paint as a means of preserving property, this booklet will especially appeal.

Ask for booklet 190-1B.

THE Paint Department got out the booklet illustrated herewith in both Spanish and English. In a very explicit way it tells how Dixon’s Silica-Graphite Paint should be used at the mill after erection; it shows the colors in which this well-known paint is made and how the cleaning and repainting should be done. This paint is purely a protective paint and is used on smokestacks, grain elevators, steel work, bridges, iron work, and all exposed metal work that needs a rust preventive and protection from the elements.

Send for booklet No. 190-2B.



A MAN jolted by a fall from his horse forgot his wife for twenty-three years. Of course, that is n’t why the horse is called man’s best friend. —*Personality*.

DON’T the evangelists have trouble enough to face without having their earnings contrasted with those of prize-fighters and movie comedians? —*Personality*.

Words

And Prize for List of Words

BY GEORGE H. REED

(SCHOOL DEPARTMENT)

"What do you read, my Lord?"

"Words, words, words."
—*Hamlet*.

THERE are many curious words in the English language and some of them date back a great many years, but these are nearly all obsolete to-day; the ones that are in use are the scientific words which have come into use in later years, but are seldom met with in ordinary conversation.

The writer remembers that when reading Shakespeare in his boyhood he met the following word:

"Honorificabilitudinitatibus"

While this word is not in the dictionary, you will find it, not only in Shakespeare, but in some of the other early writers. The chief interesting point about it, is its length—27 letters in one word are a good many, but we have in our English dictionary to-day words that are very nearly as long—for instance:

- 18 letters—"Supersensitiveness"
- 19 "—"Interconvertibility"
- 20 "—"Intercommunicability"
- 21 "—"Disproportionableness"
- 24 "—"Transubstantiationists."

There are others of equal length but these will serve to show to what extent words can be lengthened.

We have been told that the following sentence is one of the hardest to write on the typewriter, so many of the letters are used so seldom that even a good typist has to practice the combination some time before becoming perfect.

"J. Q. Vandz struck my big fox whelp."

This sentence is the only one that we know of that contains every letter in the alphabet but once and still makes sense. There are several other sentences which perhaps sound a little better and are spoken a little easier, but they contain more letters.

There are some other long monosyllabic words, as

- 7 letters—"Through"
- 8 "—"Starched," "Strength," and "Thrilled"
- 9 "—"Scratched," "Stretched," and "Squelched."

The word "that" probably has the greatest number of separate meanings of any word in the language, and it can be made to appear six times consecutively in a sentence, and still make correct English. A school boy wrote on the blackboard: "The man that lies does wrong." The teacher objected to the word "that," so the word "who" was substituted; and yet it must be evident to the reader, for all that, that that "that" that that teacher objected to was right, after all.

Still another illustration of the same word: The following sentence appeared on an advertisement in the New York elevated trains. The school teachers who went up and down on the trains puzzled their pretty heads for some time before they punctuated it so as to make good sense.

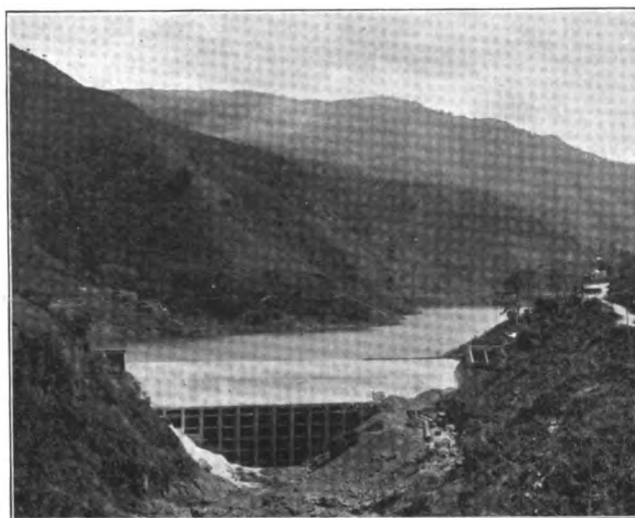
"That that is is that that is not is not."

From the *Journal of Education* we learn that a few years ago there was a prize offered for the list of the twenty-five most beautiful words in the English language. This prize was won by a New York lawyer and reported in the

New York Press. The words were judged according to their beauty of sound as well as their beauty of meaning, and we think our readers will all agree that the following, which were accepted, are the most beautiful words in our language.

Melody	Faith	Love
Splendor	Joy	Divine
Adoration	Honor	Hope
Eloquence	Radiance	Harmony
Virtue	Nobility	Happiness
Innocence	Sympathy	Purity
Modesty	Heaven	Liberty

One of the old-fashioned ways of teaching spelling was called "Logomachy," that is, by having a "Word Contest," and in order to give our readers an opportunity to see what they can do in word making, we will offer as an incentive, one half dozen "ELDORADO" pencils, "The Master Drawing Pencil," assorted grades in neat box, to the ten who send to us the longest list of words made from the fourteen letters in DIXON'S ELDORADO. They must be regular English words and found in Webster's Dictionary.



Comerio Dam No. 2 and Road, Porto Rico
Railway, Light and Power Company

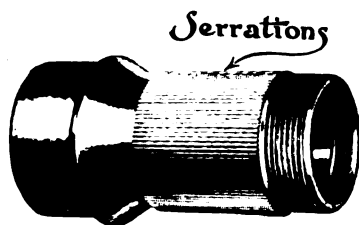
THE illustration shows the Comerio Dam owned by the Porto Rico Railway, Light and Power Company, which is situated on the main road from Bayamon to Comerio, and about 15 miles from the former. This dam was built during the years 1910 to 1913, and cost, with the power plant, nearly \$1,500,000. It is 125 ft. high in the centre and about 500 ft. across the top, and furnishes water power to generate electricity for 50% of the towns in the island.

Dixon's Silica-Graphite Paint was used on the steel work in the power house and dam.

This is one of many instances where Dixon's Paint is used in the tropics and sub-tropics.

It has proved the longest lasting paint for the protection of all kinds of metal or wood work. It has withstood the severe tropical conditions of heat, humidity, rain and other destructive agents better than any other paint.

The Dixon Company is represented in Porto Rico by Mr. H. Glyde Gregory, Royal Bank Building, San Juan, and inquiries sent him will be given prompt and careful attention.



Lubrication of Wire Wheels

IN the January number of **GRAPHITE** many will remember an article on the Rudge Whitworth Wire Wheels manufactured by the Standard Roller Bearing Company, of Philadelphia, Pa. The above illustration is the Rudge Whitworth Wheel with the outer hub removed and the inner hub exposing the serrations.

These serrations on the inner hub, as shown in the picture above, fit into like serrations in the outer hub. It is to this outer hub that the spokes are attached. The importance of keeping the serrations in both the inner hub and outer hub free from rust and dirt and at the same time well lubricated is readily appreciated. Dixon's Graphitoleo has been adopted by the Standard Roller Bearing Company as the standard form of lubrication for this high class wire wheel equipment.

Before leaving the factory all the surfaces or serrations of both the inner and outer hubs have a thorough application of Dixon's Graphitoleo. The serrations in the outer hub of the spare wheel are specially treated. This treatment insures the users of Rudge Whitworth Wheels that the spare wheels will be ready for instant service, even though exposed to the elements for a long time.

The users of Rudge Whitworth Wheels are cautioned against the use of inferior lubricants containing poor grades of graphite. Graphitoleo is a superior mineral lubricant, unaffected by ordinary temperature changes and will not gum or become rancid. It contains only the very highest grade of selected flake graphite, exclusively the product of the Dixon Company. These are essential features for a wire wheel lubricant and furnish the basis for the adoption of Graphitoleo by the Standard Roller Bearing Co.

Graphitoleo is only one of the very complete line of Dixon's Graphite Automobile Lubricants, each one of which is especially adapted for a particular part of the car, just as is Graphitoleo.

"DON'T you find it hard these times to meet expenses?"

"Hard? Man alive! I meet expenses at every turn."

—*Boston Transcript.*



He Leaves Us

AFTER fourteen years of most intimate and pleasant relations "Roy" Halsey leaves us. He leaves us to become a manufacturer practically on his own account. He steps in to take full charge of an already well established and paying manufacturing business owned by Mr. Augustus Y. Van Amringe, cousin to Mr. Halsey.

The business is that of pumice stone manufacturing. The product is used in many lines of industry, and the business is one that was established as much as, if not more than, a century ago, by Mr. Theodore Van Amringe. It has been handed down from father to son for four generations, coming into the hands of Mr. Van Amringe five years ago at the death of his father, Theodore Van Amringe. The present Mr. Van Amringe, being a bachelor, has selected Mr. Roy Halsey to take charge of the business, which is located at Mamaroneck, N. Y. In expressing our own regrets, we want to congratulate Mr. Van Amringe in securing the services of Mr. Halsey.

Wm. Roy Halsey, otherwise known as "Roy," was born in 1886, and after graduating at the Jersey City High School, entered the employ of the Joseph Dixon Crucible Company in 1904 at the age of eighteen, and now at the age of thirty-one, well grounded in business, full of activity and energy, happily married and at the head of a family, enters upon this new field of his wherein we have every reason to believe he will be preëminently successful.

A Suggestion for Economy

PAPA WILLIS: No, Willie, Papa can't afford to give you any money for candy. Papa's expenses have been very heavy lately. You know, every time the stork brings you a new baby brother it costs Papa a hundred dollars.

WILLIE WILLIS: Huh! Say, Pop, why can't you cut out this middleman of a doctor and do business direct?

—*Life.*

Pass It On

IF you 've got a smile to spare,
Pass it on.
It will lighten some one's care;
Pass it on.
It will make the skies more blue,
It will make hearts seem more true,
And it will come back to you;
Pass it on.

If you have a leaden dime,
Pass it on.
Do not fuss and waste good time;
Pass it on.
You may feel real mean, it's true,
But in just a week or two
It will come right back to you;
Pass it on.

If you have a good umbrell',
Pass it on.
'Tisn't yours, you know full well;
Pass it on.
If you know just where you got it
From your recollection blot it;
Some day the owner's sure to spot it;
Pass it on.

—*Personality.*

Took Advantage of Her

ALITTLE girl about six years old was visiting friends, says the *Kansas City Star*, and during the course of the conversation one of them remarked:

"I hear you have a new little sister."
"Yes," answered the little girl, "just two weeks old."

"Did you want it to be a little girl?" asked the friend.

"No, I wanted it to be a boy," she replied, "but it came while I was at school."

St. Patrick and Porto Rico

Written at Coamo Springs by an
American Tourist

ST. PATRICK was a gentleman,
At least so I've heard tell;
He did his many saintly stunts
Both pleasantly and well;
He charmed the snakes from Ireland,
He took sad souls from Hell,
And gave New York his namesakes,
And bade them there to dwell;
He found, I'm sure, this glorious isle
(Though history does not tell
That he accompanied Ponce de
Leon) —

I'm sure it's felt his spell,
Because there are no serpents here,
Nor snakes nor scorpions fell.
To-day's his day, we drink his health;
I'm sure we wish him well!

The Safe Handling of Crucibles

THE importance of exercising special care when handling crucibles, not only to avoid accidents but also to insure greater length of service from the crucibles, has been greatly underestimated in the past; but in our larger plants foundrymen are now giving considerable attention to the systematic instruction of their furnacemen, melters, and helpers, with a view to keeping the number of accidents as low as possible, and obtaining the greatest number of heats from a crucible.

The clay crucibles of former days have been extensively supplanted by better ones made largely of graphite, which is capable of resisting exceedingly high temperatures. In fact, crucibles composed wholly of clay have practically gone out of use for the melting of steel and brass, because they can often be used for only one or two heats, and they are far more likely to break or crack unexpectedly, thereby causing the workmen to be seriously burned. Moreover, the temperatures that occur in metal-working plants at the present time are higher than those that prevailed when the all-clay crucible was the standard type. The crucible that is now in general use consists mainly of the substance that is variously known as graphite plumbago or black-lead, and which is a practically incombustible form of carbon. This is combined with a small amount of clay (preferably of a special German variety) as a binding material, and perhaps a little fire sand to give the mixture an open grain, so that it can better withstand sudden changes of temperature. Some makers use, in addition, a certain quantity of material obtained by grinding up old, worn-out crucibles; but this practice cannot be recommended.

The graphite crucible is doubtless the most efficient yet devised, when cost and all other elements are considered, but it is nevertheless somewhat fragile, in view of the fact that it is expected to withstand a heat sufficient to melt refractory metals, and to support, at the same time, very considerable pressures due to the weight of its heavy fluid contents. It is exceedingly important, therefore, to see that all employees fully understand how to handle crucibles in order to reduce the danger of breakage to a minimum; and a great deal can be accomplished in this direction, because graphite crucibles, when properly made and carefully used, can be kept in a fairly safe condition.

The number of accidents from breakage is greater in small plants than in large ones, in proportion to the number of crucibles in use. This is due partly to the greater care that the crucibles receive in the large plants, and partly to the fact that large foundries buy supplies of crucibles considerably in excess of their immediate requirements, storing the surplus ones and allowing them to age or "season." It is an old saying that crucibles improve as they grow older, and as experience shows that this belief has some actual basis in fact, the date of manufacture should be stamped upon every crucible to assist the annealing men in selecting the oldest and best seasoned of them when additional ones are required for use.

Good crucibles are expensive, and every foundryman therefore desires to obtain the maximum service from them. The foundryman who attempts to increase the useful life

(Published by Permission of Travelers Insurance Co.,
Hartford, Conn.—Dixon's Crucibles Used)

of his crucibles by careful handling, and by the adoption of

approved methods of every other kind, is at the same time promoting safety by preventing accidents from premature breakage. Foundrymen, melters, pourers, and helpers, usually expect a crucible to run a certain definite number of heats, and they are likely to be somewhat careless when a new crucible is put in service. For this reason it is wise to assign a number to each crucible, for recording the number of heats taken. The record may conveniently be kept upon a black-board, opposite the appropriate crucible number and in plain view. Everybody then knows just how many heats each crucible has run, and this knowledge often arouses a spirit of competition, which tends to make the men more careful in handling the crucibles, and to increase the service that can safely be had from them. (The dating



A Crucible which Broke after being Run only Two Heats

and numbering here recommended are now being done, quite generally.)

When crucibles are first received, it is important that they be critically examined for cracks and flaws, not only by the eye but also by tapping them with a light hammer; and all imperfect ones should be rejected. If there is evidence that any of the crucibles in a given shipment have become wet while in transit to the foundry, they should be stored for at least four or five weeks, before being used, in a place where they will dry out thoroughly,—even though they may be apparently dry at the time they are received.

When a new supply of crucibles has been carefully inspected and found to be free from defects, the entire lot should be stored for a considerable time in a warm, dry place, and provision should be made to protect them as thoroughly as possible from contact with moisture or with moist air. The roof of a continuously operating core oven is an excellent place for the storage chamber.

The proper annealing of crucibles is of far more importance than is generally realized. It is said that crucibles, when they come from the manufacturer's kilns, contain less than one-quarter of one per cent. of moisture; but after they have cooled off they absorb moisture again from the air. To anneal a crucible properly, it should first be slowly heated to a temperature somewhat above 250° Fahr., and it should be maintained (or "soaked") at this temperature for a sufficient time to remove the moisture entirely. It

may then be put into service, if it has been thoroughly annealed by the makers. If there is any doubt on this point, however, the crucible should next be heated for some hours to a dull red heat, after which it should be allowed to cool again, very slowly, to about 250°. In any case the crucible should still be at a temperature of 250° or over, when it goes into the furnace, or the drying-out process will not be wholly successful.

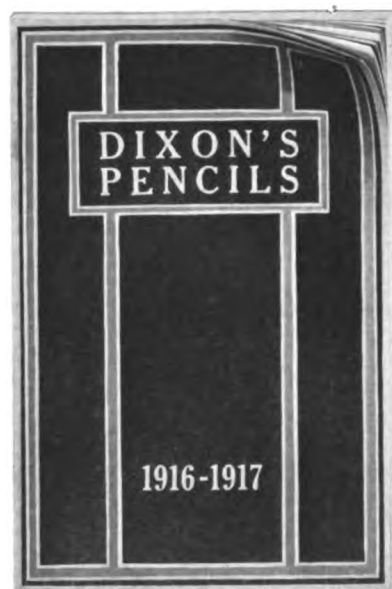
Large crucibles, with thick walls, require a higher temperature than small-sized ones in the preliminary heat-treatment, and a correspondingly longer "soaking" period, in order to reduce the absorbed moisture to the allowable limit. In drying out a No. 200 crucible, for example, ten hours or more should be allowed for bringing it up to a temperature of 250° Fahr., and fully ten hours more should be allowed for "soaking,"—that is, for reducing the percentage of moisture which may have been absorbed. If a crucible that has a considerable amount of moisture in its walls is quickly subjected to a high temperature, the moisture will be changed into steam, and this, because it is confined within the walls of the crucible, may expand so as to cause a rupture or crack. The same result may also follow from the natural contraction of the drying crucible, if the moisture is driven out rapidly or unevenly. The small "pinholes" and "skelping" that may often be seen on crucibles are caused in this way. These pinholes and fissures form one of the chief sources of trouble against which users of crucibles have to guard; for although a crucible having defects of this nature may endure for a considerable number of heats, it is nevertheless likely to fail at a critical time (for example, during pouring or while being pulled from the furnace), spilling the molten metal and causing severe hand and foot burns.



The Crack in this Crucible Developed after Five Heats

After receiving heat-treatment for the removal of moisture, crucibles are often placed on a layer of damp sand, or on the comparatively cold furnace floor, and left there for an indefinite length of time before charging. This should not be permitted, because when the temperature of the crucible falls to a point materially below 250°, it will again absorb moisture.

(To be concluded in the April number)



A NEW catalog of Dixon's Pencils, Crayons, Erasers and Penholders in baby size— $4\frac{3}{4}$ " x $6\frac{1}{2}$ "—is just off the press.

This catalog is especially designed for the convenience of outside salesmen of the dealers and jobbers, as it is light in weight and readily fits into the coat pocket.

The vocational index in this catalog, showing what Dixon pencil to recommend for each purpose, will enable the dealers' and jobbers'

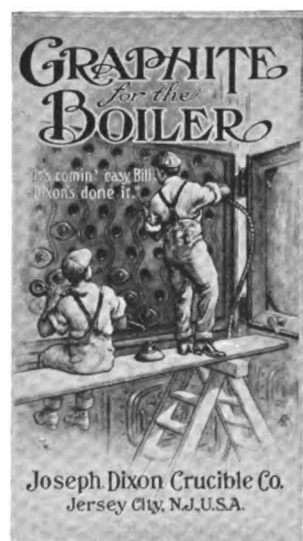
salesmen to serve their stationers in the matter of pencils in the most effective and satisfactory manner.

"THE Proper Care of Belts" is the booklet that has been prepared by this Company to explain why Dixon's Belt Dressing is a superior product.

It is to be remembered that belt economy does not end with the purchasing. As long as the pliability and life are kept in the belt, whether it be a leather belt, a fiber belt or a rubber belt, just so long is the belt useful.

Dixon's Solid Belt Dressing (the handy belt dressing) will preserve and prolong the life of belts indefinitely. This belt dressing prevents slipping.

Ask for booklet 190-O.



"GRAPHITE for the boiler." This booklet tells in a clear and concise manner why Dixon's Pioneer Boiler Graphite is one of the most satisfactory remedies for that ever-present boiler scale problem. It deals with the reason why boiler graphite should be used, the method by which it is applied, and it contains several testimonials as to the results that are being obtained.

Dixon's Pioneer Boiler Graphite has reduced the cost of boiler cleaning 70% in many plants. It may in yours.

Ask for booklet 190-T.

The Value of a Dollar's Worth of Gasoline

ACCORDING to tests made by Professor Fishleigh to determine the "heat balance" in a six-cylinder engine, one dollar's worth of gasoline gives 10 cents' worth of power, the engine and its accessories absorbing the other 90 cents' worth.

Cooling water abstracts 40 per cent. of the heat value of fuel burned. Exhaust gas carries away 25 per cent. more, and air in contact with the engine carries away 25 per cent. more, leaving only 10 per cent. of heat value of fuel as brake horse power.

When it is considered that an automobile can get only 10 cents' worth of power out of one dollar's worth of gasoline, it is self-evident that no amount of thought and care is too great to prevent friction. Perhaps no set of men are aware of this more than the automobile racing drivers, and perhaps again that is the reason why the successful ones invariably make use of Dixon's Graphite Automobile Lubricants.

Stealing from the Employer

MOVEMENT has been started to have a law that will permit the manufacturer, when he finds his goods in a place where he did not sell them, to make the people show where they secured the goods. It is said that if such a law could be enacted, it would practically stop stealing, because no one would take a chance to buy goods unless they knew where they came from; for if they did get stolen goods, they would be the ones who would receive very heavy punishment in the way of a jail sentence.

It is claimed that there are several organizations in operation to dispose of stolen goods. Some firms have cases up at this time, some others have had people convicted, but most of the time it is impossible to get the ones who stole the goods convicted.

Some time ago the Champion Ignition Company of Flint, Mich., found some of their goods being sold by a cut rate house at a lower price than they themselves were selling the goods. An investigation was conducted, and it was found that the majority of the plugs sold had been stolen from manufacturers. In talking over the matter with manufacturers it was amazing to find the amount of stealing that was going on. Every manufacturer talked with agreed that something should be done to make stealing from employers a more serious crime.

Courts do not seem to take cognizance of how great the loss may be when some small offender is brought before them accused of stealing a small quantity of manufactured goods. The big manufacturer is looked upon as very unjust and unreasonable if he shows a disposition to punish such an offender or even to seek punishment of the third party who buys the goods.

It is further said that there is stealing going on in practically every manufacturer's plant to-day, and that unless Congress passes a law giving very heavy punishment to a man stealing goods from his employer, because he takes advantage of the confidence placed in him, and a heavier punishment for those who accept goods knowing where they came from, we are going to be up against it for a number of years to come and the percentage of crooks will be increased.

♦ ♦ ♦

DISCOVERED, the non-skid banana! Inventor says it is obtained by crossing the ordinary banana with the cactus pear. Its skin resembles sandpaper.—*Personality*.

Long Service

As an Active Asset

WHEN anything is bought, whether it be a pair of shoes or a manufacturing plant, the value of that something depends upon the service that can be secured.

If it is a pair of shoes, it is a question of quality of leather and workmanship. If it is a manufacturing plant, it is a question of the building and the equipment—whether they are first-class in every particular with inherent endurance, or whether the buildings are more or less frail and the equipment such that only a short life is possible.

If that something under consideration happens to be a railroad bridge, a most valuable asset is a long service paint for the protection of the metal. No matter how skilful the workmanship may have been—no matter how high the grade and quality of the steel and iron and bolts may have been, the life and the very strength of that bridge depend upon the thin skin of a protective paint.

A prominent bridge engineer said, "Advertising talk, claims, etc., are as nothing if unsupported by service. Consider the thousands of dollars spent by the railroad company in the erection of this bridge, and then consider that over ten years ago this bridge was painted with Dixon's Silica-Graphite Paint. Had it not been painted with Dixon's Silica-Graphite Paint, it would have so corroded as to become dangerous as a supporting structure, or it would have been repainted time and again with some cheap protective paint. As the matter now stands, the bridge is as strong and stanch as ever, and the railroad company is hundreds of dollars ahead by having decided in the first place to put on a high grade long service paint."

New Commandments

1. Thou shalt not wait for something to turn up, but thou shalt pull off thy coat and go to work that thou mayest prosper in thy affairs and make the word "failure" spell "success."
2. Thou shalt not be content to go about thy business looking like a loafer, for thou shouldest know thy personal appearance is better than a letter of recommendation.
3. Thou shalt not try to make excuses, nor shalt thou say to those who chide thee, "I did n't think."
4. Thou shalt not wait to be told what thou shalt do, nor in what manner thou shalt do it, for thus may thy days be long on the job which fortune hath given thee.
5. Thou shalt not fail to maintain thine own integrity, nor shalt thou be guilty of anything that will lessen thy good respect for thyself.
6. Thou shalt not covet the other fellow's job, nor his salary, nor the position that he hath gained by his own hard labor.
7. Thou shalt not fail to live within thy income, nor shalt thou contract any debts when thou canst not see thy way clear to pay them.
8. Thou shalt not be afraid to blow thine own horn, for he who faileth to blow his own horn at the proper occasion findeth nobody standing ready to blow it for him.
9. Thou shalt not hesitate to say "no" when thou meanest "no," nor shalt thou fail to remember that there are times when it is unsafe to bind thyself by a hasty judgment.
10. Thou shalt give every man a square deal. This is the last and great commandment, and there is no other like unto it. Upon this commandment hang all the laws and profits of the business world.—*Yeoman Battle Ax*.

In a Garden

AS I walked among the paths this morning, plucking flowers, I found, in the yellow heart of a lady-slipper, a little brown bee. My first impulse was to shake him out of his honeyed abode, but as I looked at his velvety body and sunlit rainbow wings a feeling of foolish tenderness surged over me. Perhaps there were baby bees at home that would starve if papa bee did not bring back honey; and how useful the little creature was, carrying the pollen from flower to flower—so I moved on, leaving him unmolested. But even as I turned away thinking these pure, sweet thoughts, the damned thing stung me.—*E. M. Nelson in Smart Set.*

Answer to Pencil Problem

THE first son, when asked the price per dozen, replied that he would sell a dozen for one cent. The customer saw that he had three pencils left, asked him what he would take for the remaining three, and the boy replied—three cents each. This the customer agreed to and gave the boy one cent for his dozen and three cents each for the three remaining pencils out of his original stock of fifteen pencils. This made ten cents which the first boy received for his fifteen pencils.

The second son, when asked these questions, replied that he had to get the same rate that his brother had, so he charged one cent per dozen for his fifty pencils; and as he was also obliged to charge the same rate for the remaining two, he got four cents for the four dozen and three cents each for the remaining two, which made six cents, or ten cents for his fifty pencils.

The third made the same replies and for his eighty-five pencils got seven cents for the seven dozen and three cents for the remaining pencil, which made ten cents, so each boy returned exactly ten cents to his father, and yet sold his stock of pencils at the same rate. Of course the result would have been the same if the boys had charged at the rate of two cents a dozen and six cents for the odd pencils, or three cents a dozen and nine cents for the remaining ones.

Advertising

ADVERTISING is the motive power of modern business. The man who has a product that the people want and does not tell them about it, is living in the Sahara of his own barren

life. He is a derelict lost in the empty desert of his own ignorance or folly.

The true function of advertising is to suggest rather than to convince, to lead rather than to compel, to inspire rather than to direct, by creating, through the dominating idea used in the advertising, other ideas in the mind of the reader that he or she will catalogue as personal, intimate opinions of the product and its value.

All advertising that suggests, leads, and inspires, is good advertising. If it is insistent and consistent, it must be productive advertising. This is the elementary fundamental of all publicity that wins increasing sales.—*The Wallace.*

Keeping On, Keeping On

ONE step won't take you very far; You've got to keep on walking. One word don't tell folks who you are; You've got to keep on talking. One inch won't make you very tall; You've got to keep on growing. One little ad won't do it all; You've got to keep them going.

—*Jelks News.*

Tommy was Right

THE teacher had been reading to the class about the great forests of America.

"And now, boys," she announced, "which one of you can tell me the pine that has the longest and sharpest needles?"

Up went a hand in the front row.

"Well, Tommy?"

"The porcupine."—*Tit-Bits.*

Stephens Bill

SUPPORTERS of the Stephens Bill are well satisfied with the showing made by their opponents before the House Committee on Interstate and Foreign Commerce. According to the friends of the Stephens Bill the only witnesses for the opponents of the Stephens Bill were representatives of sensational big city department stores, one jeweler, the secretary of the National Trading Stamp Association, and five directors of the National Trade Association, of which the head of the Green Trading Stamp Company is president.

The friends of the Stephens Bill claim that the character of the witnesses already heard proves the contention of the proponents of the Stephens Bill, that the opposition is largely composed of monopolistic, metropolitan concerns with great capital.

The Cost of an Article

MR. H. L. GANTT of New York, speaking before the American Society of Mechanical Engineers, said: "There are many methods of cost accounting; but there are only two leading theories as to what cost consists of. They are:

"First: That the cost of an article must include all of the expense incurred in producing it, whether such expense actually contributed to the desired end or not.

"Second: That the cost of an article should include only those expenses actually needed for its production, and any other expenses incurred by the producers for any reason whatever must be charged to some other account.

"The first theory would charge the expense of maintaining in idleness that portion of a plant which was not in use to the cost of the product made in that portion of the plant which was in operation; while the second theory would demand that such expense be a deduction from profits. When plants are operated at their full capacity, both theories give the same cost. When, however, they are operated at less than their full capacity, the expense of carrying idle machinery is, under the first theory, included in the cost of the product, making the cost greater; while under the second theory this expense of idle machinery is carried in a separate account and deducted from the profits, leaving the cost constant.

"It is most interesting to note that, when costs are figured on the second basis, great activity immediately ensues to determine why machinery was idle, and to see what can be done to put it in operation.

"It is realized at once that this machinery had better be operated, even if no profits are obtained from its operation, and only the expense, or even part of the expense, of maintaining that machinery is earned.

"Plants or people who do not serve some useful purpose to a community are a handicap to that community, for idle plants represent idle capital, and idle people are not producers but consumers only. The warring nations have recognized these facts and put both idle plants and idle people to work wherever possible."

◆ ◆ ◆

WILLIS: Bump has a very up-to-date office.

GILLIS: Yes. He has one of these office-systems where you can find just what you want when you don't want it by looking where it would n't be if you did want it.—*Life.*

Crucible Roll of Honor

"It gives me great pleasure to inform you that the last order of No. 60 Crucibles has proved extremely satisfactory.

"I think they are fully as good as the crucibles you made before the war.

"Please enter my order for twenty-four (24) No. 60 Crucibles. Send one half the order at once as I have only four crucibles in stock.

Yours respectfully,

(Signed)

EVERETT BRASS & ALUMINUM CO.,

Per B. J. DOWNS,
Prop."

"PLEASE enter our order for one cask of No. 40 Crucibles, at your best price.

"Please allow me to congratulate you and the Dixon Company on their success in making crucibles from native clay. I must say the last lot of crucibles are a glad surprise. I believe they are equal to some of your best makes before the war; at least I have found them so, and I hope the next lot will prove as good.

"Hoping you will ship us this cask as soon as possible and thanking you in advance, we beg to remain,

Yours truly,

(Signed)

THE LORAIN BRASS & FOUNDRY CO.,

E. M. GABLE,
Lorain, Ohio."

"PROGRESSIVE METAL & REFINING Co., Milwaukee, Wisconsin, report an average of 30 heats on Dixon No. 225 Crucible on yellow brass, coke fuel. We are at liberty to publish this in GRAPHITE under the signature of Michael Sadek."

SPEAKMAN SUPPLY & PIPE COMPANY

THE writer thinks it might be of interest to Jersey City to know how our No. 70 Self-Skimming Crucibles are running at the above plant:

Date	Heats Run	Average per pot
Nov. 17 to 12-31	823	21
Nov. 17 to 1-11	1094	21.88

"The Speakman Co. are well pleased with the results, and the only complaint they have to make is that occasionally a pot cracks from top to bottom, but in nearly all cases this happens after they have secured from 18 to 20 heats from that particular pot."

GOLDEN BOUQUETS

OR WHY

DIXON'S ELDERADO

"The Master Drawing Pencil"

SHOULD BE USED

"YOUR samples of Dixon's 'Eldorado' drawing pencils received and I have tried all of them and now I can say the same of them as I have always said of Graphite—to get the greatest efficiency in lubrication in the mill, I specify Graphite, and now, to get the perfect pencil, all I have to remember is Dixon's 'Eldorado.' They are like a Dutchman once told me of a Babbitt metal that he was selling: 'It is hard, it is soft, it is tough, and will wear like ter tefil!'"—C. L. Hewitt National Copper Mining Co., Ltd., Mullan, Idaho.

"I BEG to acknowledge and thank you for the sample of Dixon's No. 352 Best White Pencil. In this office the 'White' pencil will do away with the soda solution for writing on blue-prints and save accidents."

"HAVING tried and found your 'Eldorado' drawing pencils very satisfactory, excelling the — pencil, my next order will be a thorough trial; you know the pencil proposition is a delicate proposition to the draftsman."

ALMOST every one has heard of *The Encyclopædia Britannica* and most of us are familiar with the work itself, but very few know that 150 years ago there appeared in three modest volumes a book which was destined to exercise a great influence throughout the world. It was called *The Encyclopædia Britannica* and was prepared, according to its title-page, "by a Society of Gentlemen in Scotland," who were, incidentally, eminent scholars in their time.

"AT the time the writer requested samples of your drawing pencil, he also asked for others and can say frankly that yours are the best. The white pencil is the best thing we have found yet for writing on blue-prints and we shall keep one on hand."



"I WOULD appreciate it very much if you would send my copy of GRAPHITE to my home instead of to my business address. As we have two factories, my copy is sometimes lost. I get a lot of real enjoyment and enlightenment from the copies and in this way it will not be lost either in the mail or at the factory."—Mr. W. F. Rohr, Mechanical Engineer, with the Bock Bearing Co.

"I RECEIVE your little magazine, GRAPHITE, each month, and enjoy reading the same very much. I also pass my copy along to my Assistant Engineers so they all get the benefit of it. We use quite a few of your graphite products and always find them to be 100 per cent. efficient."—Elmer P. Butterworth, Chief Engineer, S.S. "Gulfight."

"WHEN GRAPHITE is received with other mail, I invariably find myself reading or at least looking through it before other mail is read. This being the case, I am sure I like it."—J. A. Beamer.

"WE have read with a great deal of interest the August issue of GRAPHITE which came to our attention, and find it to be a most interesting and instructive magazine."—E. L. Kleindinst, Asst. Secy. and Treas., Automatic Transportation Company.

"PLEASE note change of address. I do not want to lose any copies. They are O.K."—C. W. Townsend, 1407 Boatman's Bank Building, St. Louis, Mo.

"LET me congratulate you on the last number of the good things in GRAPHITE; it was brimful of excellent reading, and mechanical information that was valuable and worth filing away. I enjoy it as one of the 'best' that comes to my reading table."—W. H. Curtis.

"YOU have been sending me this excellent publication for a number of years and perhaps I have not shown my appreciation by writing you heretofore. However, I want you to feel that it is read from cover to cover and many of the good things that appear therein have been passed along the line to the rest of the boys."—G. F. Calleja, Chief Clerk.

A hard, dry, "dead" belt with a brittle, glass-like surface is a great waster of power and should never be tolerated.

DIXON'S SOLID BELT DRESSING

is made to restore and rejuvenate belts in just such a run-down condition as this, with the least expense of time and effort. It's good for any kind of belt.

Rub this handy stick on the belt while the latter is running, and you'll quickly see the "life" come back to it.

It will become soft and pliable, with the kind of surface that is adhesive without being "sticky."



What you get out of a belt in the way of service depends upon what you put into it in the way of proper care and treatment. Use

DIXON'S SOLID BELT DRESSING

and you'll stop slippage—you'll save power and belting—you'll reduce the frequency of shutdowns for belt renewals or adjustment—you'll get from the belt every ounce of the "pull" in it.

*Send for Booklet No. 190-O,
"The Proper Care of Belts"*

MADE IN JERSEY CITY, N. J., BY THE

JOSEPH DIXON CRUCIBLE CO.

Established 1827



THE DE VINNE PRESS
NEW YORK

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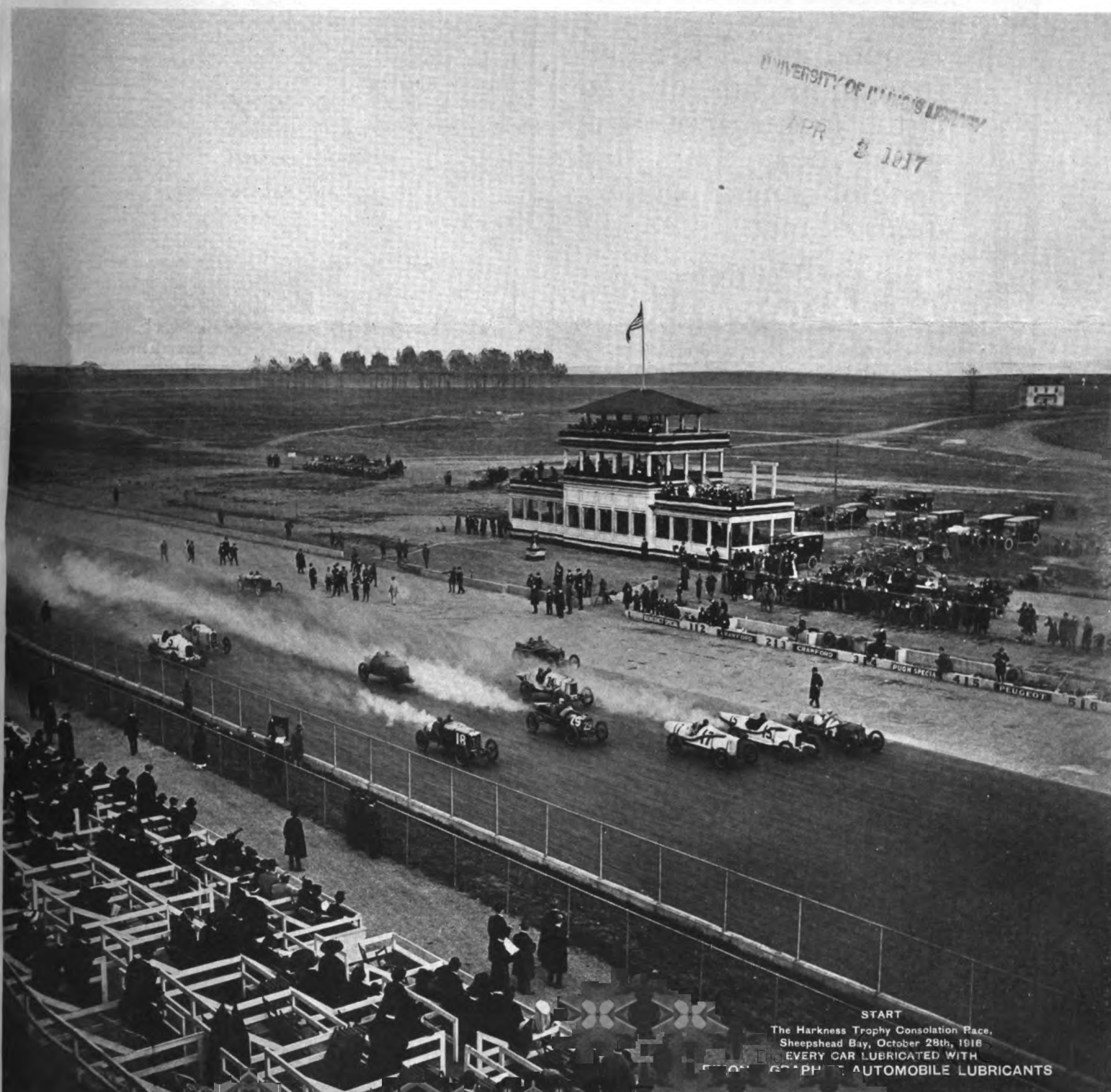
Col. N.H.S.

Graphite

VOL. XIX

APRIL, 1917

NO. 4





A Pencil Directed the Joining of the Atlantic and Pacific

A good pencil is more than an instrument. It is the mouthpiece of a great idea. It is the director-general of hundreds of men.

**DIXON'S
ELDORADO**
"the master drawing pencil"

insures good, clean working plans. The lines are clear and clean. It is long-wearing and saves time and money.

Dixon's Eldorado is made in 17 degrees—a grade for every class of work, and complete satisfaction in every grade. It is made in America.

Full-size samples sent on request on your letter head; please specify degrees chiefly used.

Joseph Dixon Crucible Co.
Dept. 190-J Jersey City, N. J.

DIXON'S BEST WHITE N° 352
writes white on blueprints

DIXON'S "ELDORADO" - the master drawing pencil - HB

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U.S.A. INCORPORATED 1868

**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**

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ATLANTA OFFICE 328 Peachtree Street

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Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

SOUTH AMERICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

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Alfredo J. Eichler, Calle Huerfanos 761, Santiago, Chile

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FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

William Croft, Room 424 Lonja del Comercio, Havana

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FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

H. Glyde Gregory, Royal Bank Building, San Juan

LATIN-AMERICAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

National Paper and Type Company, 31-35 Burling Slip, N. Y.
With Branch Agencies in Mexico, Cuba, Peru, Argentine, Uruguay, Venezuela, Porto Rico and Colombia

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A. R. MacDougall & Co., Ltd., 266-8 King St., West, Toronto, Ontario, Can.

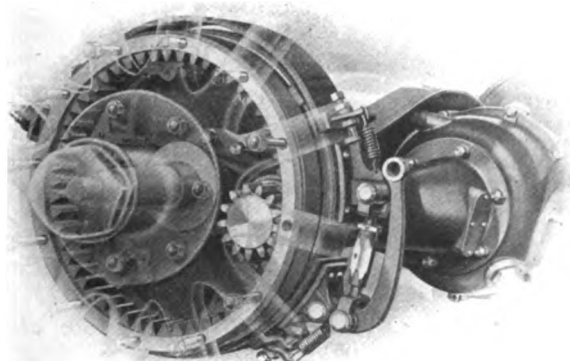
FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.



Internal Gear Drives for Commercial Cars

THE system of final drive by means of internal spur gearing is one of the methods which has recently been made use of in an effort to meet heavy service requirements for motor trucks.



We are indebted to the Clark Equipment Co. of Buchanan, Michigan, for an interesting description of the internal gear drive and for the accompanying photographs. Three years ago this concern, then known as the Celfor Tool Co., began the manufacture of internal gear drives. The demand for this product has increased steadily, and manufacturing facilities have kept pace. Recent additions to the company's plant have made possible the present output of about 1800 axles per month.

Passing on to the construction of these axles, we find two main elements, one a member for supporting the load, the other an independent system for providing driving power only. The former can thus be designed as a solid steel forging with the wheel spindles integral. It carries the road wheels at each end on anti-friction bearings and the combination of wheels and solid axle forms a "bridge" of great strength on which the rear springs may rest. The second or driving element, consisting of differential, two live axles and housing, is placed in front of this bridge and is entirely relieved by it from all stress except that required for propulsion and self-support. The outer ends of the live axles are provided with small spur gears which mesh with large internally cut gears secured to the road wheels. These gears, from which the axle takes its name, furnish the last step

in power transmission from motor to wheels. Reference to the illustrations will show these details.

The manufacturer makes several claims of superiority for this type of drive. We have already mentioned the strength afforded by the solid axle. The fact that most of the speed reduction takes place at the wheels allows of a high speed differential and consequent reduction in weight and cost of the differential and driving members. Driving near the rim relieves the wheels from undue strains. High mechanical efficiency is also claimed, especially at low motor speeds.

Lubrication is required at three points: the differential, internal gears and wheel spindles. To avoid expensive design and to facilitate assembling, the customary procedure of enclosing any gear combination in an oil-tight case is not followed for the internal gears. The design of the housing and gears permits the use of solid grease, and this arrangement has proved very efficient. However, some grease is necessary which will cling to the gear teeth, resist the influence of centrifugal action and be capable of handling heavy loads. It should be of such a nature that a minimum quantity is required so that the tendency to throw off and the liability to attract dirt and grit are lessened at the start. Dixon's Non-Leak Graphite Grease No. 680 admirably meets these requirements. The wheel spindles should be lubricated with a high grade cup grease, such as Dixon's Graphite Cup Grease No. 3, while Graphite Grease No. 677 affords maximum protection for the differential. These are specifically recommended by the Clark Company as being the proper lubricants for the Celfor axles.



In closing it is interesting to note that the original internal gear axle, built by this concern, was installed three years ago on a Federal truck operating in Detroit. During this period the truck was subjected to unusually hard service for test purposes. The axle was recently taken down for inspection and the amount of wear was found to be negligible.

Our Cover

THE Mercantile Trust Company of St. Louis, Mo., is a consistent advertiser and evinces its belief in illustrations by continued use of them.

The reproduction of this company's building is from a sketch by Frank B. Nuderscher, Artist, and was made with a Dixon Pencil.

Apropos of pencil illustrations for advertising purposes, Mr. Nuderscher expresses himself as follows: "The pencil, as a vehicle of expressing one's idea or purpose in an advertising illustration, cannot be too highly commended—it permits, in many instances, greater versatility than pen and ink, brush, or air-brush.

"In this particular Mercantile Trust Company illustration an atmosphere of solidity, progressiveness and cordiality was desirable, and, I think, was attained without sacrificing any of the dignity so important to bank advertising."

Mr. Nuderscher pronounces himself as "strong for Dixons" and uses them in illustrating booklets, catalogues, circulars and newspaper and magazine advertisements for leading St. Louis advertisers and agencies.

Mystery of Hibernation

WE read in the *Kansas City Star* that if you were to dig out of their burrows any of the millions of hedgehogs, dormice, marmots or woodchucks; or take out from the mud at the bottom of the ponds any of the lizards, turtles or frogs; or take from the crevices of rocks any of the toads or snakes; or pick from the roofs of caves a bat or two of all those clinging there, you would find each one sound asleep, and no ordinary thing you could do would awaken it, for this is its long winter sleep.

This sleep is one of the great mysteries of nature. None of the scientists can explain it. They have been studying it lately, in different parts of the world, with more than usual attention, and they have discovered some new things about it.

We know that in the few weeks before the hibernating period is to begin, those animals which are to sleep through the winter begin to put on fat. No one can answer why. By spring the fat is gone and the animal is lean and scrawny.

When the woodchuck crawls into his hole for his winter's sleep he stops breathing, but his heart beats on, feebly, and his blood circulates, slowly. You may pull him out when he is thus hibernating and hold him under water for a long time and he will not drown, because he is not breathing and his lungs will not fill with water. His heart will beat right along.

When warm weather comes the hibernating animals begin to stir and soon come out. What strange instinct or impulse is it that urges the hibernating animal to put on fat for his long sleep; that suspends breathing, but keeps the heart pulsating; that awakens him when the weather drops to the danger point, or when it is warm enough to come out in the spring? That is one of the mysteries.

One Cent Drop Letter Postage

ONE Cent Drop Letter Postage was killed in the Senate by a vote of 34 to 37, not on the merits of the proposition, but on a technicality.

The National One Cent Letter Postage Association say that their friends at Washington tell them that they can and will win the fight for One Cent Drop Letter Postage in the next session.



New Display Case

THE Dixon Company have long realized that their "ELDORADO" pencil was the "master drawing pencil." This fact was established after sending out plain cedar samples to some of the best known architects in the country, asking their opinion. The experts who tested these pencils were unanimous in saying that the unbranded pencils had set a new standard for the world in pencil making.

Dixon's ELDORADO pencils are made in 17 perfect gradings of long wearing leads. It is with pleasure that we note that the Company has put up an assortment of these pencils in one of the most attractive counter display cases that has ever been used by a storekeeper.

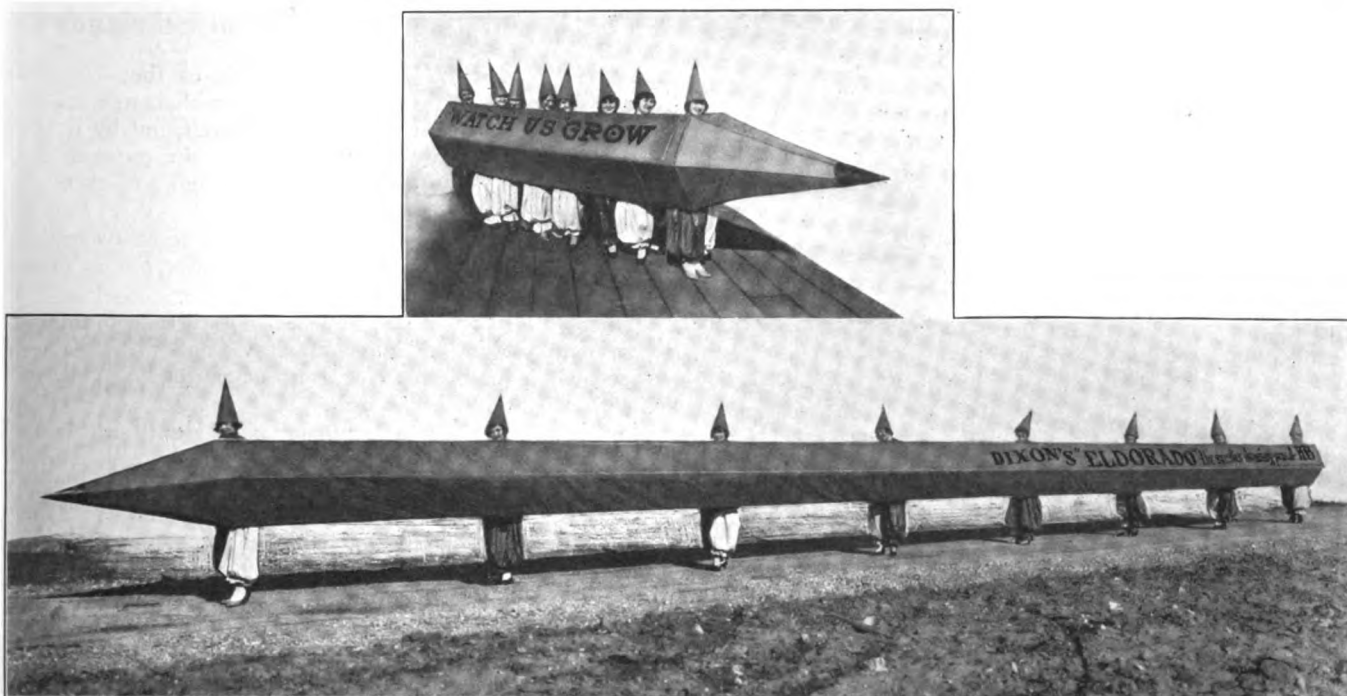
This case is made of heavy plate glass on three sides and top, with the pencils in plain view of the prospective purchaser. In this way the Dixon Company feel that they have given the high class dealer a display case which really displays the "master drawing pencil" and which literally talks to the customer in tones of a high-grade pencil. The case itself is considered an innovation by the leaders in stationery and hardware trades. It is known as the "1181" case.

Write to the Dixon Company for particulars.

Standardization

LIKE other business institutions, we aim to standardize our actions as much as practicable. With this thought in mind, one of our Branch Managers in a recent sales convention asked whether we all pronounced alike the name of our favor-winning drawing pencil—ELDORADO. "Should," he inquired, "the letter a be pronounced as in 'ace' or as in 'all right'?"

We maintained that our New England representative was correct in the use of the broad a as in "Bawston"! Dixon's "ELDORADO" is accurately styled "the master drawing pencil."



An Unusual Pencil Exhibit

OAKLAND, CAL.—The Advertising Men's Association of this city held an Ad-Masque Ball at the Oakland Civic Auditorium. The Dixon's "ELDORADO" pencil exhibit, shown above, attracted more attention than any other single display by any of the many exhibitors. Mr. Wehn and Mr. Roush, of the San Francisco branch of the Dixon Company, conceived the idea of making a pencil over 75 feet long and 30 inches in diameter.

Eight beautiful girls each took a place in a section of the pencil. At the word of command they stepped out to the full length of the pencil and were greeted with a great cheer.

The local papers all praised the Dixon exhibit in long, enthusiastic accounts. The pencil attracted so much attention that a telegram was received from Los Angeles the following night for its exhibit there.

Everybody who saw this mammoth pencil was very enthusiastic about it, just as are the users of Dixon's ELDORADO pencil, "the master drawing pencil."

The illustrations are symbolic of the growth of Dixon's ELDORADO pencil business, or the business that has been done on the Dixon ELDORADO, "the master drawing pencil." A few months ago this pencil was looked upon as an unknown quantity by the stationery trade. To-day Dixon's ELDORADO is the biggest pencil in the field—it's the acme of pencil perfection.

The discriminating and patriotic storekeeper must realize that the day has come when he can find an American-made pencil that is setting a new standard for pencil-making. Dixon's ELDORADO, "the master drawing pencil," is the one pencil which has made this possible.

Word Contest

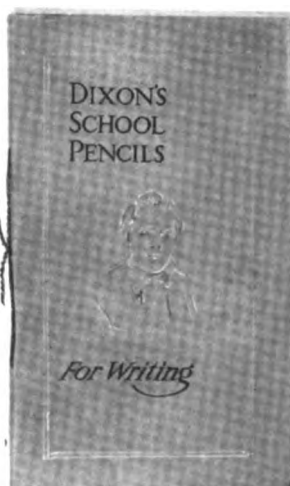
WE received thirty (30) replies to this contest, which was given in the March GRAPHITE, and the total number of words submitted by the various contestants ranged from seventy-five (75), the lowest, to five hundred and twenty-five (525), which was the highest. The list of

names of the first ten (10), who were the successful contestants, is as follows:

Mr. W. G. Riffanacht, Glenfield, N. Y.	525
Mr. Harry C. Faber, Monongah, W. Va.	514
Miss B. Fern Tenny, Rochester, N. Y.	392
Miss Elva L. Hill, Rock Island, Ill.	337
Miss Beatrice Prigge, Chicago, Ill.	332
Mr. Charles W. Chandler, Boston, Mass.	328
Miss Irene Edgecomb, Cortland, N. Y.	323
Mr. E. L. Proctor, Arlington, N. J.	320
Mr. R. J. Totten, New Wilmington, Pa.	300
Mr. George Gundlach, New York, N. Y.	297

We feel extremely grateful to our friends for spending so much time on this matter. We want our readers to be interested in GRAPHITE and feel sure that the time so spent will not have been spent in vain.

A New Booklet for You

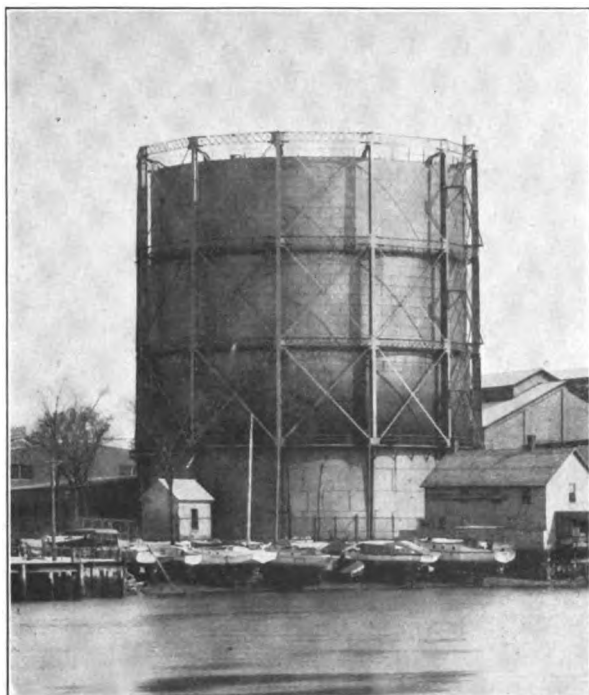


HERE is a booklet that will interest any one who is teaching the "young idea" how to write.

This booklet shows not only the pencils in plates which experts have said to be the finest reproductions of pencils they have ever seen, but it explains why the leading men in pedagogy have adopted certain pencils for certain purposes. It tells clearly why a large pencil should be used in teaching the beginner to write.

This booklet also deals with the problems of drawing and sketching as they are

treated by leaders in the modern drawing methods. Ask for booklet No. 190-SJ.



**Gas Holder, Stamford Gas & Electric Co.,
Stamford, Conn.**

NEW ENGLAND is noted for its patriotism, culture, manufacturing enterprises, etc. In its industrial operations, "Paint Preparedness" is a well settled policy, based on study and test. In no section of the nation are the protective qualities of Dixon's Silica-Graphite Paint better understood and appreciated.

We illustrate above one of the many Public Service plants where Dixon's Paint is used, not only because it gives longer service and consequent greater yearly economy, but also because it is a protective paint which is neat in its appearance.

The user has a guarantee when using Dixon's Silica-Graphite Paint, because we manufacture only **ONE GRADE**—the very **BEST**. It is the most satisfactory paint, from the user's point of view, for almost every kind of metal and wood surface requiring protection.

Our Paint Department would like to send you illustrated literature and information in your line. Whatever your paint problems may be, kindly favor the Dixon Company with your inquiry.

President of the Joseph Dixon Crucible Co.

**Is Impressed by the Appeal of the Collector of Internal
Revenue and Offers to Anticipate Payment**

April 14, 1917.

HON. CHARLES V. DUFFY, Collector, Int. Revenue,
Newark, N. J.

Dear Sir: I am impressed with the appeal of William H. Edwards, Collector of Internal Revenue of the Second District of New York, for prompt or anticipated payments of income tax due.

If you will send us a bill, or advise that our income statement is approved, this company will be pleased to immediately forward check in payment thereof.

(Signed) **GEO. T. SMITH, President.**

The Psychology of Industrial Efficiency

AMERICAN INDUSTRIES tells us that "if efficiency is ever to take on real serious character and be measured, not by whim, or guess, or conceit, but by living results, it must be born in the heart, not the purse of industrial management; and permeate through and through the whole system of supervision.

"The most efficient supervision must of necessity render the most humane service, and in very embryo this must take the form of human interest."

James J. Hill's ideal was service, not fortune building. Every man under him knew him as "Jim" Hill. They respected him for his superior grasp of railroading and for his personal interest in his men.

The names of John Wanamaker and Henry Ford are splendid examples of how men breathe their own spirit into their organizations.

If the head of a concern is an executive, a man of vision, a man of broad sympathies and high ideals, a man of efficiency and energy of character, his entire force will be a wide-awake body of live wires.

When John H. Paterson, head of the National Cash Register Company, placed his desk in the middle of his factory, then it was that his men began to work as never before. That of course was in the early days of the industry.

The men in the factory like to know the heads of the concern—they like to meet them—they like to be able to say that they know their boss, even though there is no familiarity between them.

One only needs to step into such factories as the Franklin Automobile Works or the National Cash Register Company's plant to get a decided, positive answer.

Loyalty is inspired of confidence, confidence in men who believe in men, and who believe in God. No man over men who can damn his men has their confidence. And no plant operated without a definite welfare program can hope by a mere wage motive to win the loyalty of its working force. Every sensible man must realize the justice of being able to work at a man's job, under the direction of a manly man, at a man's wage, with a manly confidence in the heads of his concern.

Consider the Stars

IT is ever a wholesome reminder to man that he is after all "but an infinitesimal atom on a fleck of mud," a reflection that is often much needed in the case of the young student who with a mere taste of knowledge thinks, to his own detriment, more highly of himself than he ought to think. That the stars in their courses never vary from their appointed paths, order being the supreme law of the heavens, teaches one of the lessons most needed in the life of the young man or young woman planning for a future in the world of people and affairs. Just as the ancient navigators had to guide their ships by an unchanging star, so they must resolve to guide their conduct by the fixed principles of right, and thus avoid the whirlpools, shallows, and other unknown dangers of the modern sea of life which are responsible for the wreck of many a mother's hopes. The innumerable stars, myriads of worlds of which we know so little, can be studied with profit by young and old, and it is a privilege of which all, rich and poor, may avail themselves. The opportunity should be used more, so says the *Richmond Times-Dispatch*.

Are You Game or are You a Quitter?

HOW about it—have you backbone sufficient to stand up and take the blame which is yours?

The chances are that every time you think it possible to blame some one else in order to save yourself you do so.

Did you ever stop to think how cowardly this is?

Why not be fair enough and big enough to admit your failure has been the cause of a whole system being put out of gear?

Hiding behind another when you should stand out in the open and take what censure belongs to you is like a soldier running behind a comrade during the heat of battle. Same principle.

Come out like a man and admit you are guilty when you know you are.

Any man who amounts to anything in this world makes mistakes. Bound to.

If you hold back from taking a step in any direction because you are afraid you will make a mistake, you will never get anywhere.

Go ahead. But if you make a mistake, don't try to shift the blame.

Author Unknown.

Our Philadelphia Punster

MR. J. M. WILLITTS of the Dixon staff of the Philadelphia Branch was brought before the Knights of the Motor World at their banquet held in Philadelphia, and was told that he must make a speech in terms familiar to those intimately acquainted with the automobile and its parts. He said in part as follows:

"I am not a *self-starter*, but as you have started me I will *back fire* and you may possibly find it necessary to put me down as a *crank*. That might *brake* the monotony, or possibly an *arm*.

"This body of Knights is not a one-man affair and, therefore, does not carry a *one-man top*. It is incumbent upon us all to adjust our *timers*, and have every *piston* doing its share of the work. Doesn't that *ring* true?

"Your organization did not *spring* into existence in a night, but was carefully thought out. The right kind of a *bumper* was placed on the front of the machine in the way of carefully planned constitution and by-laws.

"Now, gentlemen—I want you to *clutch* on to the following ideas:

"I suggest you *prime* your cylinders of activity, and endeavor to get the proper *compression* for the *transmission* of the principles for which you stand. In other words, each one of you should be a *spoke* in the *wheel* to give this association *universal* support. By this I mean, be a *radia-tor*, radiating the warmth such an organization as this should throw out.

"To do this, it is necessary for every one of you to carefully get your *bearings*, scrape *valves* clean of the *carbon* of inactivity, *plug* hard for the Knights of the Motor World success, and one of the first things you will realize will be that you are *housing* a great many more members than you had expected, and benefit will come to all of you.

"If any one of you should happen to have a *differential* with any other member, or any one *tread* on your *shoes*, get your *gears* properly lubricated through your fraternal connection. In further explanation of this point—don't look for the *mot* or any other object in your brother's eye, until you have first consulted an oculist yourselves.

"In doing this it may be necessary for each one to apply the *brakes* occasionally. Therefore, good lining should be selected—*As-Best-As* you can get.

"In your connections with the Knights, don't run on the *rim* of the activities. Aspire to be at least a part of the *hub*. *Key* yourself up to being a *push rod*. This is the privilege of every member, and you *auto* do it in justice to yourself and company.

"It may be, if of a *retiring* nature, necessary to *fan* your ardor a trifle, or to lengthen your *wheel base*, in order to *pump* for the Knights.

"I would suggest that every Knight become a *carburetor*—that is, be a good mixer. Select the right *fuel*, and proper amount of *air*, keeping close watch on the *regulation* of heated atmosphere. If necessary, use a *wind-shield*.

"Now, if you are willing to *knuckle* down, be careful as to how you operate the *steering wheel* in matters as above mentioned, always keeping your *license tag* in full view, there will be no *crank cases* for adjustment and the force from your *magneto* of social relationship will be carefully indicated on the *dial* of the *speedometer* of your progress, and nothing but a *traffic cop* on the corner can stop your onward *speed*, and even he will have a hard job.

"If necessary, use your *accelerator*—make a good *get-away*. Cause Mr. Cop to say to himself, 'Too fast for me that time, I think I 'll *lever* be,' in which case he might deserve a *three point suspension*, or be placed in *shackles*, providing he does not make a *bolt* for the exit soon enough.

"Now, gentlemen—I'm *tired*—I feel myself *skidding*—I need *chains*—and so does this program. I feel *grit* in my *gear box* and a *blow-out* is imminent. I have lost *control*. Therefore, I will press the *pedal* and release the *clutch*. In other words, I am going to *STOP!!* If I didn't I'm afraid somebody might start a *Gra Fight*."

Forceful Instructions for Prompt Shipments to Uncle Sam

Jersey City, N. J., April 13, 1917.

TO ALL BRANCHES, DEPARTMENTS AND FACTORY SUPER-INTENDENTS OF THE JOSEPH DIXON CRUCIBLE COMPANY, JERSEY CITY, N. J.

Gentlemen:

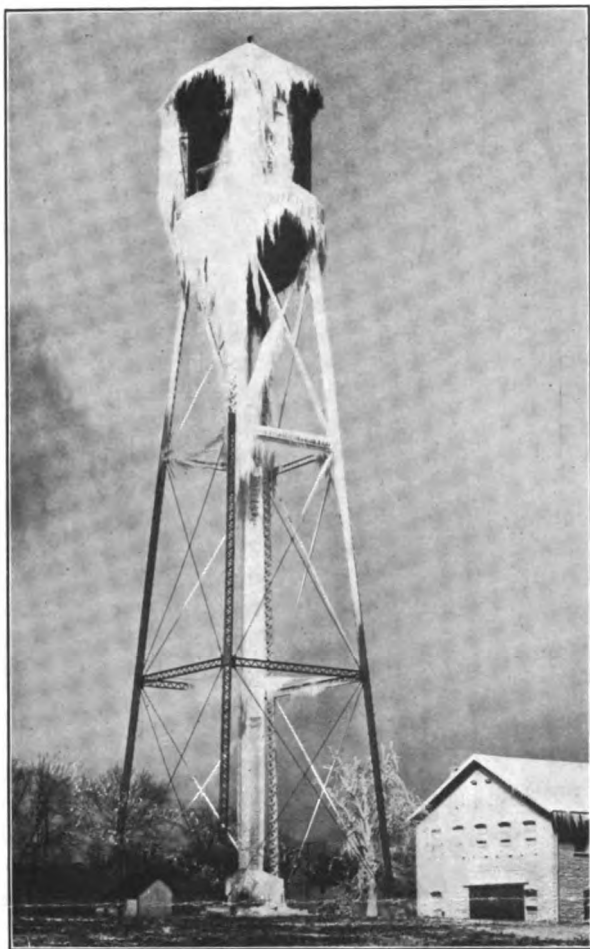
We have to-day received a communication from the Secretary of the Treasury Department at Washington, D. C., requesting that all orders drawn upon us by the War and Navy Departments be given preference and articles shipped with the least practicable delay without reference to the time stipulated for delivery in our contracts, because the War and Navy Departments are in urgent need of supplies, and every effort should be made to deliver them at once.

It possibly is needless for the writer to bring this to your attention, but we cannot express ourselves too forcefully in giving instructions that this request of the Treasury Department at Washington, D. C., be carried out by every department of the Joseph Dixon Crucible Company, and that special attention *must* be given to all orders for the United States Government to be sure that the quality is of the best and that the most prompt delivery possible is made.

J. H. SCHERMERHORN, Vice-President.

Copy sent to

Hon. W. G. McAdoo, Secretary,
Treasury Department, Washington, D. C.



Water Tank, Lancaster Tire and Rubber Company, Lancaster, Ohio

THE above illustration of water tank owned by the Lancaster Tire and Rubber Company graphically shows the contest waged between atmospheric conditions and protective coatings.

The following testimonial convincingly shows that Dixon's Silica-Graphite Paint, as usual, is the winner in the battle with the elements:

THE LANCASTER TIRE & RUBBER COMPANY, LANCASTER, OHIO.

"We are enclosing herewith photograph of our tank, the only interest of which to you is that it was painted some two years ago with Dixon's Silica-Graphite Paint. A recent examination since the ice melted or dropped off, shows that the tank is in good condition.

"The ice, in some places, pulled away from the tower and dropped in big chunks, but in no case did the paint peel off.

"Dixon's Silica-Graphite Paint is past the point where it needs testimonials and we are giving you the above for your information."

Yours very truly,

THE LANCASTER TIRE & RUBBER COMPANY,
(Signed) J. T. ROSE, *President*.

♦ ♦ ♦

SEND 10 cents in stamps for samples of an HB Eldorado. This is one of the 17 degrees that is best suited for general purposes.

Dixon's Help Break the Records

NO matter whether it's a speed contest or climbing performance, when records are broken, Dixon's Graphite Automobile Lubricants are pretty sure to "have a finger in the pie." And generally when some cross-continent or non-stop event is pulled off it's a Dixon-lubricated car that carries off the honors. In the racing game it has become almost proverbial that a Dixon-lubricated car will win, for Resta, Aitken and practically all the best-known boys who travel at a fast-as-a-bullet clip use Dixon's Lubricants constantly.

Hughie Hughes used Dixon's when he drove his climbing chariot to the pinnacle of Pike's Peak faster than a chameleon changes color. Ralph Mulford uses Dixon's when he races, as well as when he hangs up records for speedy traveling up hill and down dale in a cross-country classic. Dixon's meet the requirements everywhere. There's a recommendation for the man who drives for business or pleasure.

The Value of Mistakes

IT is well said that we all make mistakes, but unfortunately we don't all profit by the mistakes that we make. Whether we do or not depends upon the attitude that we take when shown our mistakes.

Those who learn to profit by their errors grow stronger and better as they grow older. Those who make mistakes and get peeved when such are called to their attention are foolish and do not grow stronger and better because of them.

Many people get "sore" when their errors are pointed out, especially if the pointing out of such errors requires additional time or effort to undo them. A man who is to-day a successful business man, and who was a good many years ago employed in the Billing Department of the Joseph Dixon Crucible Company, said to the writer a short time ago that he believed his success as a business man was due to the way he was "jumped on" by the General Manager when he made mistakes in his invoices. He said that at the time he felt pretty "sore," but he could not get away from that General Manager, and in time he learned to be careful, and still later being careful became a habit with him.

A well-known writer on psychology has said that "in studying it is impossible to retain knowledge if the mind is not receptive." Whether in studying or in taking advice or in mending one's error, if the mind is not receptive and the person willing to be corrected and to profit by it—well, we know where he will land in time.

There's Many a Slip

THERE'S no field in which this old adage holds true to a greater degree than in automobile racing. In the big racing classics it is a usual thing for a number of the contestants to run afoul of trouble. There are, of course, different causes. Sometimes something about the car snaps under the strain. Engine trouble signs the death warrant to another man's chances. There was a time when friction "queered" many a driver's prospects.

Nowadays friction is the cause of comparatively few of the mishaps to the racing cars. This is largely due to the fact that practically all winning performances are made by cars lubricated with Dixon's Graphite Automobile Lubricants. This fact has opened the eyes of the racers to the dependability of Dixon's and has brought practically all of them into the Dixon fold. Pleasure drivers can't go wrong by following the lead of the discriminating professional drivers.

One Young Man's Creed

NOT long ago a young Cornell graduate found a job at engineering up in Canada. He buckled down to his work earnestly and was demonstrating the good stuff that was in him, when by accident he was killed. He had been receiving only the moderate wages which beginners get in that occupation, and in order to be frugal and save something out of these moderate wages he had hired a barely furnished room in which to live. After his death, when the few contents of his room were looked over, his friends found a manuscript containing the principles which this young man had formulated for his guidance through life. They are worth reprinting, for they show that this struggling engineer was also a human philosopher, and the creed which he formulated should be a wholesome guide for every man.

MY GUIDE

A—To respect my country, my profession and myself. To be honest and fair with my fellowmen, as I expect them to be honest and square with me. To be a loyal citizen of the United States of America.

B—To speak of it with praise and act always as a trustworthy custodian of its good name. To be a man whose name carries weight with it wherever it goes.

C—To base my expectations of reward on a solid foundation of service rendered; to be willing to pay the price of success in honest effort. To look upon my work as an opportunity to be seized with joy and made the most of, and not as a painful drudgery to be reluctantly endured.

D—To remember that success lies within myself, in my own brain, my own ambition, my own courage and determination. To expect difficulties, and to force my way through them; to turn hard experience into capital for future struggles.

E—To believe in my proposition, heart and soul; to carry an air of optimism in the presence of those I meet; to dispel ill temper with cheerfulness, kill doubts with a strong conviction, and reduce active friction with an agreeable personality.

F—To make a study of my business, to know my profession in every detail, to mix brains with my efforts, and to use system and method in my work. To find time to do every needful thing by never letting time find me doing nothing. To hoard days as a miser hoards dollars; to make every hour bring dividends, increased knowledge or healthful recreation.

G—To keep my future unmortgaged with debts; to save as well as earn. To cut out expensive amusements until I can afford them. To steer clear of dissipation and guard my health of body and peace of mind as a most precious stock in trade.

H—Finally, to take a good grip on the joys of life, to play the game like a man; to fight against nothing so hard as my own weakness, and to grow in strength a gentleman, a Christian.

"So I may be courteous to men, faithful to friends, true to my God, a fragrance in the path I trod."—*The Bulletin*, N. Y. C. R. R.

No Chance

"YOUNG man," said an inquisitive old lady to a tram-conductor, "if I put my foot on that rail shall I receive an electric shock?"

"No, mum," he replied, "unless you place your other foot on the overhead wire."—*Tit-Bits*.

Spoiled It

"I GOT my start in life by serving in a grocery at \$3 a week, and yet I have managed to save," announced the candidate.

Whereupon a voice from the audience queried:

"Was that before the invention of cash-registers?"—*New York Times*.

Service

LIFE is Service. The one who progresses is the one who gives his fellow-beings a little more—a little better—Service.

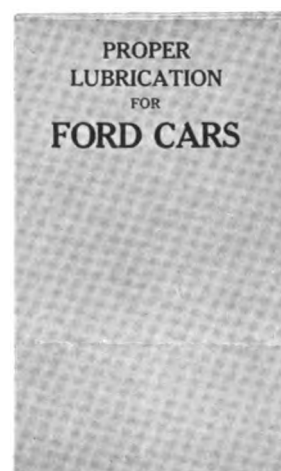
So then, it is to the best interest of each employee to treat all customers with courtesy and careful consideration.

New customers are just as valuable as old customers, for each new customer is an old customer in the making.—*Minn. Dry Goods Review*.

MANY car owners find it difficult to know just what lubricants to use in the various parts of their cars. They frequently use too heavy a lubricant in one part, or too light a lubricant in another part.

For the benefit of car owners our Lubricants Department has prepared a series of charts containing instructions for lubricating several of the most popular cars, such as Reo, Studebaker, Overland, Ford, Chevrolet, Cadillac and Dodge.

Any one who is interested in a chart of this kind may have one upon request. Please mention GRAPHITE.



THERE is nothing that will improve the appearance of a community so much as a well-groomed or well painted gas holder. Every community has one of these gas

holders, which many people look upon as a necessary evil. This notion can be greatly modified if the proper paint is used.

DIXON'S SILICA-GRAPHITE PAINT, for over 50 years the longest service paint, has done some noble service on gas holders, giving records of from 8 to 10 years' service on one painting.

Those interested in the welfare and the appearance of their community, and those who really care about the looks of their gas holder, will find it to their advantage



to send for Booklet No. 190-5-B. This booklet tells why the cost per year of service is much lower on Dixon's Silica-Graphite Paint than on any other.

Dixon's Silica-Graphite Paint costs more, but records prove it to be the lowest cost paint in the length of service it gives.

Queer Trades

THERE are many ways of earning a living which are not known to the ordinary public. In the applications for military exemption in London, we learn that a "bargain-letter," a "monkey-runner," and a "bull-dogger" were among the exemptions granted.

A "bargain-letter" is the man in a quarry who arranges terms with the quarrymen from time to time as the work demands.

A "monkey-runner" works in a steel mill, where he convoys the pieces from shop to shop suspended from block and tackle.

A "bull-dogger" is the man in a steel mill who stands by the rollers and receives the rolled metal in a large pair of tongs or dogs.

An "allowance man" is the man in a brewery who is responsible for the allowance of beer made to every employee twice daily.

A "jack-tenter" is employed in the cotton mills, while employees known as "jiggers" are found in a score of trades as wide apart as woolen weaving and coal mining.

A "bank walker" has nothing to do with financial institutions, but is engaged in examining the banks of canals and rivers to guard against accidents.

A "pig lifter" has nothing to do with pork in any shape; he is employed in a steel works.

There are scores of other names quite as curious. Sometimes these names, such as "clicker," are found in a dozen different trades.

Old But Good

- 1.—Given the base and rate to find the percentage:
Rule:—Multiply the base by the rate.
- 2.—Given percentage and base to find the rate:
Rule:—Divide the percentage by the base.
- 3.—Given the percentage and rate to find the base:
Rule:—Divide the percentage by the rate.
- 4.—Given the amount and rate to find the base:
Rule:—Divide the amount by one plus the rate.
- 5.—Given the difference and rate to find the base:
Rule:—Divide the difference by one minus the rate.

Dixon's Graphite Cup Greases

DIXON'S Cup Greases, containing finely ground choice flake graphite, reduce friction to a minimum. By using these high-grade graphite greases the bearings soon acquire the well-known graphite polish that eliminates friction and causes easy running. Use in all grease cups, also in wheel spindles, universal joints, etc.

Use cup grease No. 3, except in warm climates, where No. 5 is better. The consistency of each grade changes but little under wide temperature variation.

The importance of attending to the numerous small bearings and moving parts of cars is frequently overlooked. Wherever you see a grease cup don't think it is put on as an ornament, but give it a turn once a day or once a week according to the requirements. Don't forget to fill them with greases occasionally.

Sold in one-, five- and ten-pound tins. Larger packages if desired.

A Thriving Trade

JOHNNY had been very excited all morning and finally burst out with: "We have a baby girl at our house, teacher; Dr. Moore brought her."

Immediately another small hand was frantically waved in the air, and a little voice piped: "We take off of him, too, Miss Brown!"—*The Sunset*.

Annual Meeting of the Joseph Dixon Crucible Co.

THE annual meeting of the stockholders of the Joseph Dixon Crucible Company was held at the company's office in Jersey City, on Monday, April 16th, 1916.

There was present a large attendance of stockholders who expressed their satisfaction with the present management and re-elected the former Board of Directors for the ensuing year.

The vote recorded was the largest ever represented at an annual election—19,738 shares out of a possible 20,000.

No changes were made in the personnel of either the Board of Directors or the officers of the company as listed elsewhere in this issue of GRAPHITE.

MEN must know that in this theater of man's it remaineth only to God and angels to be lookers-on.—*Bacon*.

Business is Business

"BUSINESS is Business," the Little Man said,
"A battle where 'everything goes,'
Where the only gospel is 'get ahead,'
And never spare friends or foes.
'Slay or be slain,' is the slogan cold,
You must struggle and slash and tear,
For Business is Business, a fight for gold,
Where all that you do is fair!"

"Business is Business," the Big Man said,
"A battle to make of earth
A place to yield us more wine and bread,
More pleasure and joy and mirth;
There are still some bandits and buccaneers
Who are jungle-bred beasts of trade,
But their number dwindles with passing years
And dead is the code they made!"

"Business is Business," the Big Man said,
"But it's something that's more, far more;
For it makes sweet gardens of deserts dead,
And cities it built now roar
Where once the deer and the gray wolf ran
From the pioneer's swift advance;
Business is Magic that toils for man,
Business is True Romance.

"And those who make it a ruthless fight
Have only themselves to blame
If they feel no whit of the keen delight
In playing the Bigger Game,
The game that calls on the heart and head,
The best of man's strength and nerve;
Business is Business," the Big Man said,
"And that Business is to serve!"
—*Berton Braley in The Nation's Business*.

Willing to be Spared the Introduction

THE train had groaned to silence, broken only by a sputtering snore in upper seven. The curtains in lower eight parted and a bibulous voice called:

"Shay, neighbor, wouldja mind lift-in' zhe needle on zhat record till it gets t' zhe music?"—*Life*.

Don't Stencil in English

AN American traveler writes that while he was walking along the wharf in Cuba he noticed a number of packages labeled, "Stand on End," "Handle with Care," "Don't use Hook," "Keep this Side up," etc., and thought what little value those stencils were, especially when the negro roustabouts and stevedores did not understand English. He suggests that American manufacturers when shipping packages should have such phrases as the above in the language of the country where they are shipped.

This we think is certainly a good suggestion.

Saving in Coal

IT is a question how much higher the price of coal will go. There have been a number of causes for the present high price, chief of which has been a low supply and a high demand. Factories are running at full capacity, using far more coal than ever before. Labor conditions have been such as to cripple the output of coal, and the endeavor to make a saving in coal, while always important, will be even more so until the cost of coal drops again, and we do not feel as much as at present the sting of high prices.

Thousands of tons of coal are burned annually under boilers that might be saved if boilers were kept clear of scale and in the best condition for transmitting the heat. Unfortunately many engineers seem to think that there is no cause to worry about scale unless it is at least $\frac{1}{4}$ " thick. As a matter of fact $\frac{1}{16}$ " of scale will reduce boiler efficiency $\frac{1}{8}$. Or, in other words, if \$8,000 is spent per year for coal, \$1,000 is lost due to scale $\frac{1}{16}$ " thick. Expressed in this way, one can imagine how much money is needlessly spent for coal.

Wonderful saving in fuel bills is made where Dixon's Pioneer Boiler Graphite is used. A small plant in Cape May, N. J., saved 143 tons of coal the first year and 182 tons the second year after beginning the systematic use of Dixon's Boiler Graphite.

Owners, managers and engineers, when worrying about coal bills, will do well to remember that even a little scale is costly, and that flake graphite will save them money.

◆ ◆ ◆

A STRENUOUS soul hates a cheap success.—*Emerson.*

A LAUGH is worth a hundred groans in any market.—*Lamb.*



You Can Postpone This

Add years to the life of your car, ward off rapid depreciation by using

DIXON'S
GRAPHITE
Automobile
LUBRICANTS

With this lubrication friction around your car is conspicuous by its absence.

Ask your dealer for the Dixon Lubricating Chart.

Joseph Dixon Crucible Co.
Jersey City, N. J.
Established 1827



A Song of Sunrise

On the Morning of the Russian Revolution

TO those who drink the golden mist
Whereon the world's horizons
rest,

Who teach the peoples to resist
The terrors of the human breast:—
By burning stake and prison-camp
They lead the march of man divine,
Above whose head the sacred lamp
Of liberty doth blaze and shine;
O'er blood and tears and nameless woe
They hail far off the dawning light;
Through faith in them the nations go,
Sun-smitten in the deepest night:—
Honor to them from East to West
Be on the shouting earth to-day!
Holy their memory! Sweet their rest!
Who fill the skies with freedom's ray!

—*George E. Woodberry,*
New York Tribune.

Going Up

THE horrible news comes from Arkansas that a boy climbed a corn stalk to see how the corn was getting along and now the stalk is growing up faster than the boy can climb down. The boy is plumb out of sight. Three men have undertaken to cut down the stalk with axes and save the boy from starvation. It grows so fast they can't hack twice in the same place. The poor boy is living on nothing but raw corn and has already thrown down four bushels of cobs. Next!

—*Exchange.*

GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"YOU recently sent me some samples of your ELDORADO Pencils. After trying these samples we have ordered a supply from your San Francisco branch. In my estimation your pencils are the equal, if not superior, to any other pencil, including the —."—(*Artist.*)

"WE have your favor of the 26th ult., also sample set of 'ELDORADO' pencils mentioned therein, for which please accept our thanks.

"In reply beg to state that we have given your pencils a very thorough trial here in our Drafting Department, and must say that they have proven all you claim for them.

"In closing will add that we are now securing these pencils through the regular channels of our Purchasing Department."—(*Industrial Company.*)

"WE are in receipt of the samples of your Dixon's 'ELDORADO' drawing pencils, also 'BEST WHITE' No. 352, for which we thank you. We have given them all a trial and have found them thoroughly satisfactory. We find the grade, grain, and wearing qualities to be all that is claimed for them. For some time we have been looking for a white pencil for marking blue-prints that would prove satisfactory, but have been unable to find one. I believe this one is what we have been looking for."—(*Architects.*)

"WOULD advise that we have put these pencils in the hands of the draftsmen and are more than pleased with the results, the pencils being smooth and having excellent wearing qualities. The Dixon's Best White No. 352 fills a long felt want in this line, and you will note we were not long in appreciating the quality of this pencil, as I just received the two dozen pencils this morning which we ordered, owing to the good quality of the sample which you sent us some time ago."

—(*Industrial Company.*)



Seventeen
Degrees

The Dependable Pencil

Almost unconsciously, in drawing intricate plans, one bears stronger than necessary on the pencil. With an ordinary pencil the result is a broken lead, or an uneven line, or a scratched drawing.

With "*the master drawing pencil*" the pressure may be increased far out of proportion, and the lead will remain true. There is no grit to tear the paper. The leads will not crumble.

DIXON'S ELDORADO

"the master drawing pencil"

is made true to grade in 17 degrees of hardness.

The leads in Dixon's Eldorado pencils have a perfect balance of smoothness, strength and wearing quality in relation to each degree of hardness or softness. The wood is soft and easy to cut, but clings tightly to the lead.

Dixon's Eldorado is the close friend of men who pride themselves on their work—who do difficult work, and who do good work.

Full-size samples sent on request on your letter head; please specify degrees chiefly used.

DIXON'S BEST WHITE N°352
writes white on blueprints

**JOSEPH DIXON
CRUCIBLE CO.**
Dept. 190-J, Jersey City
New Jersey

THE DE VINNE PRESS
NEW YORK

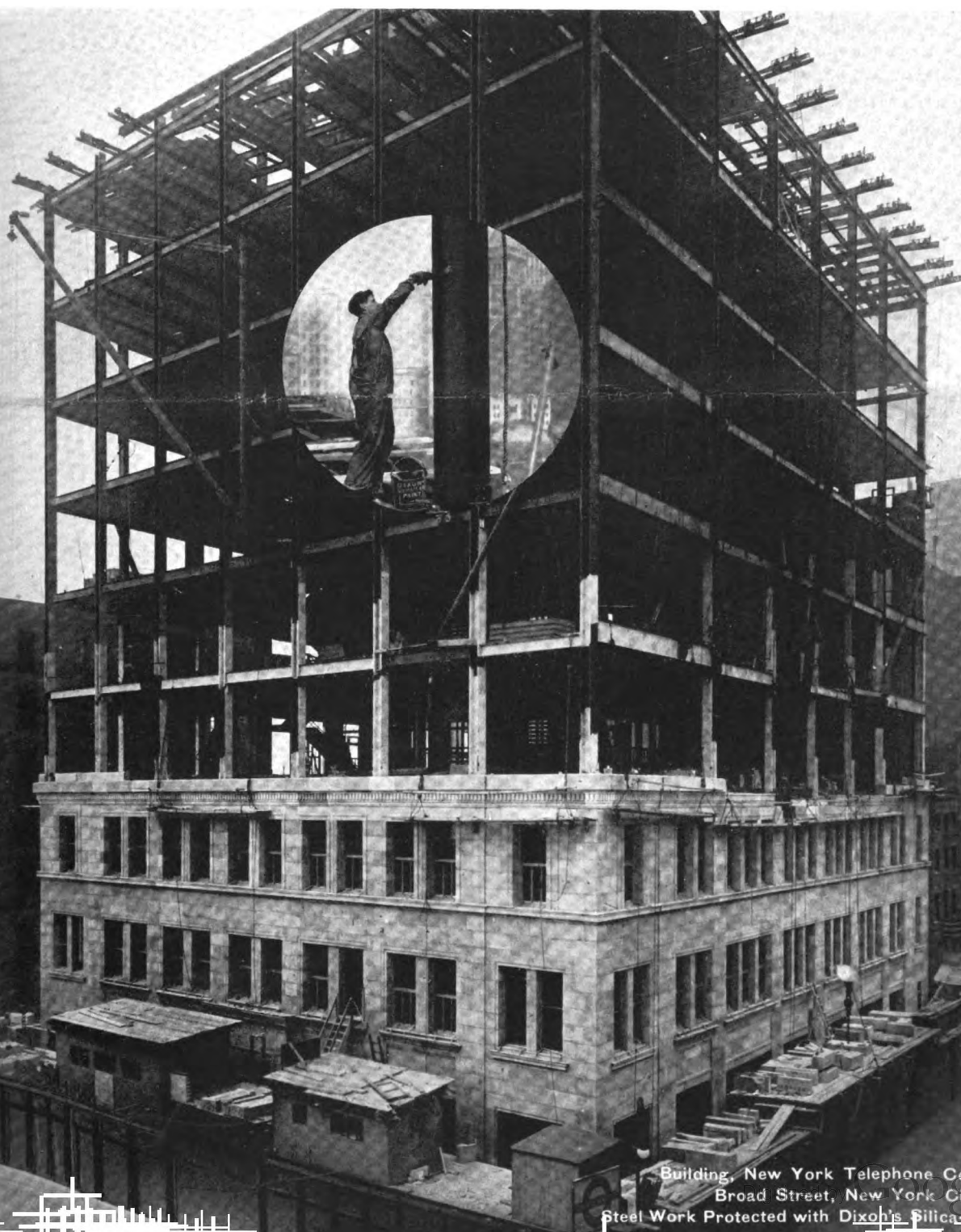
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Graphite

VOL. XIX

JUNE, 1917



NO. 6



Building, New York Telephone Company,
Broad Street, New York City.
Steel Work Protected with Dixon's Silica-Graphite Paint

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868

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Manufacturers of Graphite,
Plumbago, Black Lead** 

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FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.

Long Wearing

With Dixon's Eldorado there's no need to worry about frequent sharpening—the leads wear long and hold a particularly fine point. They are strong and smooth—absolutely no grit; and no

smudge in the harder leads. Made in America, in seventeen degrees.

DIXON'S ELDORADO

"the master drawing pencil"

Write us on your letter head for free samples of your favorite degrees, compare them with any drawing pencils of the same degree you have ever used, and see which pencils last the longest, giving the best and most satisfactory service at the same time.

You need only to test Dixon's Eldorado to convince yourself that it is *"the master drawing pencil."*

Joseph Dixon Crucible Co.
Dept. 190-J Jersey City, N. J.

DIXON'S BEST WHITE N° 352
writes white on blueprints





The Painting of Standpipes of Water-works

THE greatest destroyer of metal is dampness combined with air. Long-time experience in the practice of painting standpipes with a true silica-graphite paint has demonstrated that for protective purposes no better paint can be found, especially when the natural silica-graphite is scientifically and thoroughly ground with pure boiled linseed oil.

The importance of proper application is readily seen when we note that it has been found that probably nine out of ten so-called failures of protective coatings are due to improper application.

One of the causes of such failures is the fact that many paints are difficult to apply. Silica-Graphite Paint as made by the Dixon Company, and known as Dixon's Silica-Graphite Paint, is applied with wonderful ease and certainty. The surfaces are easily and quickly covered, and because of the low specific gravity of the pigment there is no sagging. This ease of spreading is a direct result of the lubricating quality of the graphite itself, and is the explanation of the large volume of pigment which may be incorporated in a graphite paint.

Mr. Joseph V. Siler of Philadelphia has for years done all of the repainting of standpipes for the American Pipe and Construction Company of Philadelphia, as well as for other large concerns. He says:

"Answering your inquiry *re* computing the cost of standpipes' cleaning and painting. Experience teaches the practical painter the approximate amount of time necessary to clean standpipe and water tank work. This depends upon the condition of the work at the time of repainting, which means the extent of corrosion; the character of paint previously used; and in both cases how difficult or easy is the removal of the old scale.

"A fair working average on a plain surface, such as the outside of a standpipe, is ONE CENT PER SQUARE FOOT, according to conditions. Raise this figure a little for inside work because of the greater amount of corrosion or greater difficulty in removing it. This estimate does not include the purchase of paint. Neither does it include the cost of brushes and tools, which can be considered to represent a cost of 5%, figuring upon the cost of make-up.

"The average cost of cleaning by means of chipping and painting (no paint included) is 3½ cents per square foot.

"The cost of sand - blasting and painting, including

transportation of sand-blasting apparatus, within a reasonable distance, is 5 cents per square foot." (The Dixon Company, supported by the well known Mr. G. B. Heckel, Editor of *Drugs, Oils and Paints*, recommend that all surfaces should be thoroughly cleaned by hammers and scrapers, or by steel-wire brushes.)

"Now about the paint item. One paint may cost 50 cents a gallon; a superior paint which lasts longer may cost \$1.65 per gallon. One paint will cover 200 square feet; another 500 square feet per gallon. One paint can be more readily applied than another, thus saving in labor. We estimate that the actual cost in averaging the paint is 1½ cents per square foot.

"Dixon's Silica-Graphite Paint, being easy to apply, and covering the maximum of surface, and costing net say \$1.65 a gallon to consumers in barrels, will come to about 22 cents per square.

"There is a difference in the cost of cleaning and painting the lattice-work of uprights, on which the tanks are constructed, depending upon the position of the lattice-work. The average length of columns is 100 feet. They are square in shape and average from 10 to 12 inches on all sides. Each 100 feet of this class of work requires 6 gallons of paint for each coat, and the total cost of cleaning, application and paint per 100 feet is about \$19.00.

"The outside bottom part of the average water tank costs \$7.00 per 100 square feet, which includes scaffolding, cleaning, application and cost of paint.

"All of the above figures are based on actual average cost and the 15% or 20% labor profit that the painter charges for himself, so if the owner employs his own labor he can deduct that profit, but his labor might not be as expert as an expert water-tank painter."

The Dixon Company has been manufacturing Dixon's Silica-Graphite Paint for over fifty years, and has been making it in one quality only, the best.

For a good many years we have illustrated in our house organ, GRAPHITE, standpipes and water tanks on which Dixon's Silica-Graphite Paint has been used and given long-time service at small cost. We shall be very glad to correspond with any one who may be interested in such a paint.



**Water Tower, Scituate Water Company,
Egypt, Mass.**

THE accompanying illustration shows an interesting view of the water tower of the Scituate Water Company. This is known as the "Lawson Tower," and is located on the highest part of "Dreamwold" at Egypt, a village in the old Pilgrim town of Scituate, Massachusetts. Within this tower is a standpipe which is protected from corrosion with Dixon's Silica-Graphite Paint. In this instance an interesting fact is pointed out: that while metal-work may be protected from wind and weather by wood-work of this character, it is necessary to have a good coating of paint to prevent rust.

The tower shown in the picture is 145 feet high and in the top are hung 13 bells reproducing the Westminster Chimes.

The shingles are laid 9 inches to the weather at the base of the wall and 2 inches at the crown, giving the vast cylinder the appearance of a Greek column and making it one of the most beautiful pieces of architecture in America, and one of the most attractive water towers in the world.

The picture of the tower was furnished through the courtesy of the School Arts Publishing Company.

Protective Paint for Maintenance-of-way Structures of Railroads

WE quote below a part of a most instructive article written by the railway expert, Mr. E. S. Donnelly, in a recent issue of the *Railway Review*:

"I do not believe the railroads in general realize, or stop to figure, all of the advantages that they will derive from a liberal use of paint on their maintenance-of-way structures. Paint is no longer considered from the ornamental viewpoint. Utility is its strongest argument.

"It took many years to get people to understand that paint was a necessity, and not a luxury; that its mission in this world was preservation, not ornamentation.

"For every dollar's worth of paint spread upon the buildings and bridges of a railway system, the life of that build-

ing is prolonged in far greater proportion than is measured by the amount expended. The lasting quality of physical properties is wherein lie the profits of any business. One of the surest ways of maintaining a business is the provision against loss or waste. Paint, without exception, is the greatest friend the man of big or small business ever had.

"One might think I overestimate the preserving quality of paint, but any man of average intelligence, by the use of a pencil, can arrive very quickly at results in the matter of waste and preservation. It has been proven again and again, by those competent to figure and pass on it, that paint, properly used, will save a building, at the very lowest estimate, 10% per annum against deterioration. When you pause and consider the amount of money invested in the physical property of a railway system, you will readily appreciate the fact that the amount, in dollars and cents, saved by the use of paint greatly exceeds the outlay for its purchase.

"Aside from the 10% per annum the railroads save by the protection paint affords against natural deterioration, they save a great deal higher percentage by fostering the desire and the practice on the part of the employees in the art of taking care."

An opinion as valuable as this one is of great encouragement, as users of Dixon's Silica-Graphite Paint have claimed that the chief value of Dixon's Paint lies in its long service.

Mr. Donnelly claims 10% is the lowest saving from deterioration upon buildings by the use of a protective paint. It is likely that the saving, when Dixon's Paint is used, on either metal or wood surfaces, is much greater than 10%, because we have service records of from 5 to 15 years, on all kinds of structures under all conditions in all climates.

Let us hear from you with regard to your paint requirements this spring. Never was labor so high-priced. Why waste labor by using a poor quality of protective paint, for the structure may soon need repainting? Why not use Dixon's Silica-Graphite Paint and thus put off the necessity for repainting for the longest possible period?

In no field more than on railroad work is Dixon's Paint better known. Both for construction and maintenance work, it is considered as standard by many of the leading railroads of the United States, Europe, Latin-America, the Far East, etc. These railroads include both private and government work.

Facts Briefly Stated

AS paint pigments, Silica and Flake Graphite are absolutely unchangeable.

Paints made with these pigments possess the greatest possible durability, films remaining elastic after years of service.

No chemical action can occur between the pigment and the vehicle.

Graphite is the most water-repellent pigment known, and paints made with it are the best water excluders, thus preventing corrosion.

Because of the unctuous quality of the graphite, the paint is easily applied, thus insuring good work, and good work is as important as good paint.

◆ ◆ ◆

OBSTACLES and difficulties have distinct virtues. If they cannot be considered real friends, at least they are absolutely essential to our progress. If they were all wiped out of the world, we would degenerate immediately into the ranks of the day laborer, who, when he reports for work in the morning, takes hold of pick or shovel with calloused hands and begins the monotonous physical repetition of his task.

Only obstacles, hardships and resistance, surmounted and overcome, can develop us into what we should be.



Presented to Mr. Arthur K. Ingraham

AFTER efficient service with the Joseph Dixon Crucible Co. for nearly half a century, Mr. Arthur K. Ingraham, who has represented this concern in nearly every State in the Union, has retired from active work.

As a token of friendship and esteem his friends at the Boston Office, with whom he has been pleasantly associated for the past decade, have presented him with a silver loving-cup. Mr. Ingraham, who is now in his eightieth year, can look back upon a remarkably interesting career in the field of salesmanship which takes one to the historic days of the wayside inn and the stage coach.

He entered the employ of the Dixon Company at the age of 32 in the year 1870 and made his first trip that year from New York City to Bangor, Maine. In later years he covered the West and South as well as Canadian territory. In 1913 the Convention of the National Stationers Association at Springfield, Mass., was made more memorable by the presence of Mr. Ingraham and "Uncle George" Olney, the two oldest salesmen in the stationery line in the country. These two gentlemen are staunch friends.

Mr. Olney officially quit the road in January, 1914, and in writing Mr. Ingraham stated that in resigning the position of "Dean of Traveling Men" he took pleasure in placing it in the hands of such a worthy representative.

Telephones and Paint

READERS are referred to the illustration on the front cover of this issue of GRAPHITE.

What has a protective paint to do with the telephone business? Dixon's Silica-Graphite Paint is being used on the 2000 tons of structural steel contained in the sixteen-story building of the New York Telephone Company, 102-108 Broad Street, New York City, which structure is being erected at an approximate cost of \$1,200,000.

The architects are Messrs. McKenzie, Voorhees & Gmelin; the steel contractors, Eidlitz & Ross, Inc., and the general contractors, the Cauldwell-Wingate Company.

Why do so many architects and engineers specify Dixon's Silica-Graphite Paint for buildings designed by them? The answer covers a number of points.

1st—It has been made for over fifty years in **FIRST QUALITY** only and has made good.

2nd—The pigment is Nature's mixture of silica-graphite, which is not affected by heat, cold, acids or alkalis.

3rd—Silica-graphite paint affords remarkable resistance to abrasion and wear.

4th—Pure boiled linseed oil only is used. The Dixon Company under no circumstances uses an inferior oil or adulterant so as to cheapen the cost of production.

5th—Silica-graphite paint has the best test records. Railroads, for instance, have tested it before adopting it as standard. This record is of service to architects.

6th—A linseed oil paint with a suitable pigment is considered by eminent engineers as the best protective paint.

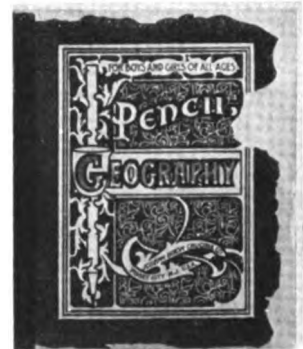
Therefore we invite architects, engineers, etc., to correspond with us about their paint requirements. We feel they will be best satisfied with the qualities and performance of Dixon's Silica-Graphite Paint on structural steel work.

Write for our "Notable Buildings" booklet and other literature, if you are interested in the protective paint subject.

Pencil Geography

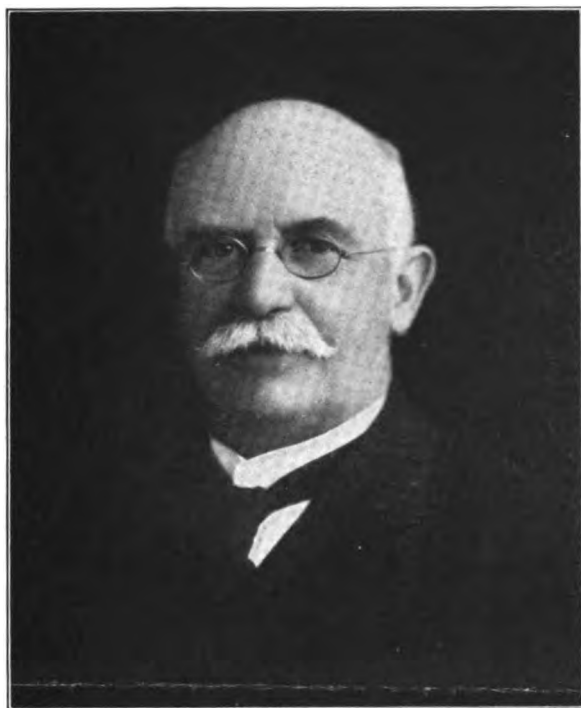
A GOOD many years ago the study of geography was taught by means of questions and answers. Our School Department remembers not only many of the questions but some of the answers, and experience has taught us that this is a very good way for a child, not only to become interested in a subject, but to be able to remember it. Many of the questions in geography that were asked us (shall we say forty years ago?) are still remembered, and so we thought the child of to-day might be able, perhaps, to remember the story of the pencil if it were put in the form of questions and answers.

The Pencil Geography was originally written in 1904 and has been published continuously ever since. It is now in its sixth edition. Its aim is to answer the many questions that have been and are still being asked by teachers in regard to where the materials come from, and how they are put together, to make the Dixon pencil. It has a number of illustrations which tend to make it resemble the old-school geography from which it was originally patterned. It is used in many schools for supplementary reading, for composition work and in classes that are devoted to vocational instruction.



1877 George Edward Long 1917

TWENTY-SIX officers and department managers of the Dixon Company were gathered at Delmonico's on the evening of Thursday, May 10th, 1917—in honor of Mr. George Edward Long, Vice-President—who on that date completed his fortieth year of unbroken association with the Company.



President George T. Smith occupied the head seat at the table, with Mr. Long at his right and Vice-President J. H. Schermerhorn, Master of Ceremonies, at his left, with Mr. H. C. Lewis, Vice-Pres. and Gen'l Mgr. of the National Paper & Type Company of New York, the guest of the Company. Other associates were Secretary Harry Dailey ('80), Treasurer W. Koester ('80), Assistant Secretary and Treasurer A. Norris ('87), John Tracy ('74), T. B. Valteau ('82), Richard Van Dien ('80), F. Engelbrecht ('82), J. W. Robottom ('93), John I. McComb ('96), George H. Reed ('96), Malcolm McNaughton ('87), Herman Price, W. G. Stringer, George Neighbor, L. H. Snyder, Isaac Kemp, C. C. Van Anglen, Fredk. L. Hillmeyer, Victor J. Prescott, A. J. Pfaff, Benson H. Rowley, Charles C. Kelly, and Charles A. Moore. President Smith, after a pithy speech, presented Mr. Long with a Tiffany umbrella, as a token of regard from his associates and a provision against the Rainy Day, and then, using Mr. Long as his text, he exploded the theory that to be a successful man means the push or pull of wealth or influential backing; stating that the man we met to honor had risen to the position of Vice-President through his own efforts, his adherence to duty, his unqualified service, and that other men at the table had also risen to their respective positions of authority and trust, through the same quality of service and loyalty, and the Dixon Company has and ever shall recognize and reward individual worth, and encourage by advancement those who prove worthy.

Other speakers were Mr. Lewis, Mr. Valteau, Mr. Van Dien, Mr. Norris, Mr. Dailey, Mr. Tracy, Mr. Stringer, Mr. McNaughton, Mr. Engelbrecht, Mr. Moore, and Mr. Koester.

Of course Mr. Long was on his feet many times, for he was in fine feather and appreciated to his innermost heart the occasion and the expressions of good will and regard from his associates.

Mr. Schermerhorn as Toast Master kept the elocutionary ball rolling like a professional, and at 12:15 the assembly most reluctantly broke up, with the unanimous opinion that it was "the end of a perfect day."

Mr. Albert Norris and Mr. R. Van Dien arranged the menu and the printing. Each person was provided with a souvenir menu, bearing a fine portrait of Mr. Long, and printed by The De Vinne Press in their high degree of excellence. The De Vinne Press also presented to Mr. Long a special menu. This menu, 8 x 11, was hand painted in beautiful medieval text and brilliant coloring, bound in blue morocco, lined with white watered silk, with special pages for the autographs of those in attendance. It was a most beautiful piece of art work, and a thoughtful gift from The De Vinne Press, with whom the Dixon Company has had business relations for as many years as are allotted to Mr. Long in his connection with the Company.

Mr. Long was also honored at the noon luncheon in the Company's dining room. The young ladies of the Company's office decorated a large round table appropriately, and put in the center of it a large birthday cake bearing 40 candles. The cake was later cut and distributed.

Later in the afternoon, a number of the workmen in the factory called personally to offer their congratulations to Mr. Long. Among these were: John Lincks ('62), Christopher Voegler ('64), Matthew D. Earl ('72) (who worked as a carpenter in building the original Dixon Pencil Works), John Wagner ('74), John Heintz ('77), John S. Poole ('78), William Burns ('81). At one time there were six men, including Mr. Long, gathered in his office whose average number of years of service with the Dixon Company was forty-six. (V D.)

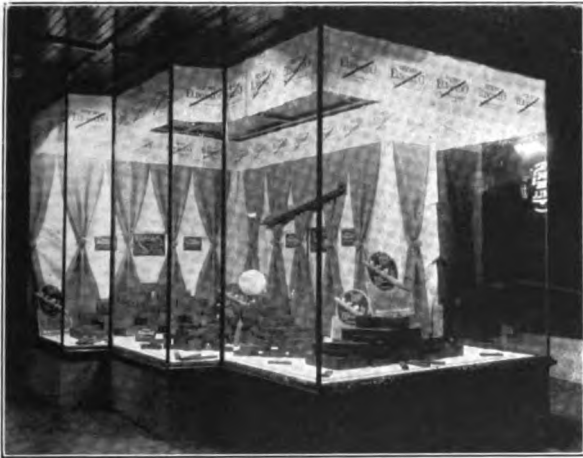
Advertised Articles

AN editorial in the *Public Ledger* of Philadelphia informs us that Alan C. Reiley, President of the National Association of Advertisers at the Poor Richard Club, argued in favor of advertised articles. He said, among other things, that national advertisers should welcome the most complete investigation of the economic worth of advertising, as it has proven that the advertised article is cheaper than the unadvertised.

Advertising has been criticized by the non-advertisers, who asserted that the increased cost of living was due, in a large measure, to the appropriations for advertising food. Accurate figures have been made that show that the nationally advertised commodities were virtually the only ones that did not go up in price. Advertising increases sales and, as a consequence, yields to the advertiser a larger measure of profit than the non-advertiser gets.

The business man who does not advertise throws away deliberately the most effective means yet devised for reducing the cost of selling. He cannot escape from the two primary costs, those of manufacture and of selling.

Advertising is like a straight line: the shortest distance between two points—the producer and the consumer. It cuts out the grades, curves and the angles. It makes a drop of ink do the work of a salesman. Bear in mind that goods can never be sold unless there is a demand, and advertising creates this demand in the simplest, most direct and least expensive way.



THE finest window to date in the Philadelphia district advertising Dixon's "Eldorado" pencils is that shown in the photograph herewith. It is a window of the new stationery store of Bleakly Brothers, in Camden, N. J. The "Eldorado" window was the first display of its kind in the new store, being, indeed, one of the features of the opening. It showed the possibilities of the new cartons, crêpe paper trims, cutouts and signs in an impressive way.

The Bleakly Brothers' stationery store is a large and commodious stationery headquarters. The first floor is given over to the regular run of stationery articles. Altogether, the new equipment puts Bleakly Brothers more emphatically than ever in a class by themselves in the stationery business in Camden.

To Study Brazil's Markets for American Machinery

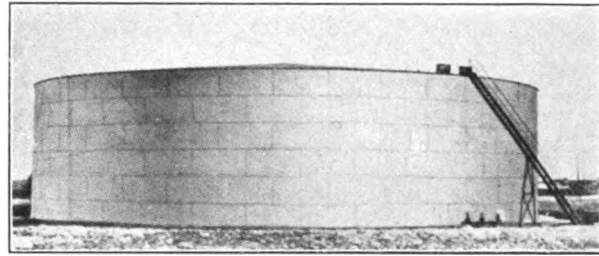
DR. ROBERT GRIMSHAW, of New York, an engineer of broad experience in this country and in Europe, will sail for South America early in June, as a special agent representing the Bureau of Foreign and Domestic Commerce, to study the markets in Brazil for metal-working and wood-working machinery, and for prime movers.

In addition to his experience in practical engineering, Dr. Grimshaw has written numerous works in English, French, and German on stationary and locomotive engines, special shop processes, and workshop organization and management. Among his clients have been the governments of the United States, Bavaria, and New South Wales. He was one of the founders of the American Society of Mechanical Engineers, and has been admitted to membership in the corresponding French and German societies. Since his return at the beginning of the war, Dr. Grimshaw has filled the chair of cost reduction in New York University and acted as chief of the planning department of a prominent New York firm.

ENTERING UPON NEW PERIOD OF DEVELOPMENT

Brazil has never used machinery extensively in the past, but it is felt that a new period of development is setting in, and that the demand for such equipment will grow rapidly. For a number of years, at least, practically all machinery will be imported. As the government is an important purchaser, the bureau will make a special study of the methods of awarding contracts for government supplies.

Before starting for South America, Dr. Grimshaw will visit the leading American machine shops to confer with manufacturers who are interested in export trade. Firms desiring to get in touch with him may address him at Room 409, Custom House, New York City.—*Commerce Reports*.



Oil Tank in Mexico

PETROLEUM and its products, oils, kerosene, gasoline, etc., interest the world because they are essentials of war, industrial life, transportation, etc.

When a petroleum "gusher" is struck by fortunate drilling, the successful catch of the product is also essential.

For almost a year, the Petroleum Iron Works of Sharon, Pa., erected on an average one 55,000 barrel capacity tank complete and ready for service each and every day in the oil fields of Mexico, California, Oklahoma, etc.

We illustrate one of the huge steel tanks in course of construction erected by this concern in the Mexican oil field.

Dixon's Silica-Graphite Paint was chosen to protect this metal tank.

Because of the oily nature and flake formation of the pigment, Dixon's Paint has no equal in keeping moisture and gases away from the metal. Therefore, metal properly painted with it lasts longer than when painted with other paints. The result is that, per year of service, Dixon's Silica-Graphite Paint is the most economical protective paint.

So far as we know, the Dixon Company is the only company making paint from a distinctly crystalline flake graphite.

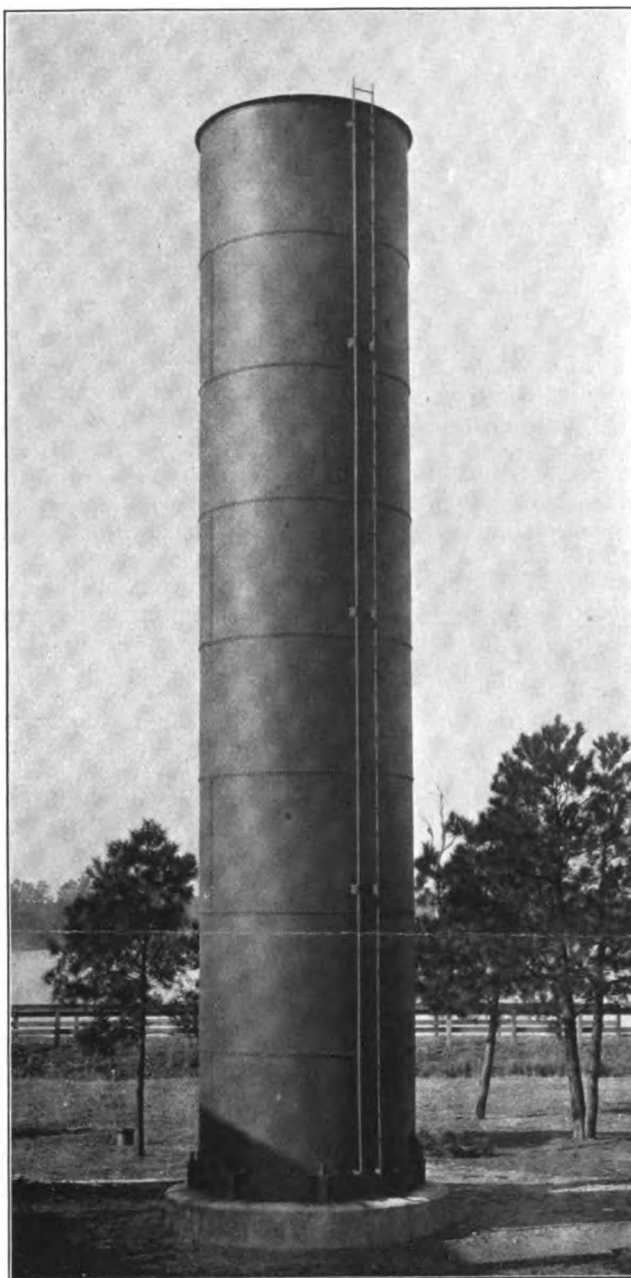
Herding Sheep by Aëroplane

THAT which a few years ago was unbelievable is to-day taken as a matter of course. Therefore, when we read in the *Aërial Age Weekly* that Mr. J. Stanley Smith, a millionaire sheep ranchman, of Martinsdale, Meagher County, Montana, is herding sheep by aëroplane, we have no doubt of his doing so.

Mr. Smith makes the statement that it takes a man on horseback four days to ride from one side of his ranch to the other; that hundreds of his sheep have been lost on the range and have never been found by the herders. They died later from exposure and lack of attention. Last year he lost some 2000 sheep. Now he intends to eliminate the loss by the use of an aëroplane.

By flying over the wild portions of his estate it will be an easy matter to observe every herd of sheep from a comparatively low elevation. Sheep always go in herds, seldom less than two or three hundred in a herd. When he sees a herd from the air he will simply drop a smoke bomb, which will serve to indicate their location to the herders and men in the pack-trains. He will also have his machine equipped with wireless, which will enable him to communicate with the wireless station that he will have installed on one of the motor trucks of the pack-train. In this way it will be possible for him to give definite instructions to his men as to the location of the lost herds, and for their getting to them by the most direct route.

Mr. Smith believes that from the financial viewpoint the use of the aërial patrol on sheep ranches will result in an enormous saving. If he is only able to save half of the sheep he has lost in former years the plan will pay for itself.



**Standpipe, Norfolk County Water Company,
Fentress, Virginia**

THIS standpipe was painted in June, 1916, with two coats of Dixon's Silica-Graphite Paint, olive green, by Joseph V. Siler, contracting painter of Philadelphia, Pa.

Dixon's Paint is considered the best all-around protective paint for standpipes, tanks, hydrants, etc. It is used for the reason that it has given protection against wear and dampness for the longest period.

◆ ◆ ◆

WE read in *The Nation's Business* that the value of the tobacco crop of this country in 1916 to the farmers who produced it, more than equaled the value of the gold and silver mined in the U. S. during the same period of time.

It takes two pounds two ounces of silver, worth \$20.00 at the present high price of that metal, to buy a pound of the finest Cuban tobacco.



A Novel Window Display

THE Leominster Hardware Company, of Leominster, Mass., has devoted an entire window to the display of Dixon's Lubricants. Attention is attracted to the window by electric racing autos that tear madly around the track. This is placed in the front part of the window and soon a crowd is collected and told of the advantages of Dixon's Lubricants and that nearly all racing drivers are enthusiastic users of Dixon's. This display has proved a wonderful help in increasing the sales of this store.

"Why Mosquitos?"

THE *Independent* of New York asks the above question. The *Independent* does not forget that years ago it was a strictly religious paper, so it started out by saying, "The old theological question, 'Why does not God kill the devil?' seems to have vanished from the forum."

Then the *Independent* adds:

"It is an irrepressible question. It has been forced upon our attention frequently of late, even when we were deeply absorbed in other matters. We have lain awake nights thinking about it and arisen in the morning sleepless and sore without having found a satisfactory answer."

Evidently it has occurred to the writer of the above while lying awake at night to ask himself, "Of what use are mosquitos to men?" and the second thought has come, "Of what use are men to mosquitos?" and the mosquito has buzzed back the answer, "They are good to eat." This answer of the mosquito is a true answer, and if it is not satisfactory to us it is because we look at the matter from a selfish point of view. Then the writer becomes fanciful in his dreams and says, "We do not deny the right of existence to a fish that is one of the edible species. Yet the fish devours mosquitos by the million in their infancy, the innocent and unarmed wrigglers. The more enterprising fish may even leap into the air and so capture the adult mosquitos in their element. That suggested the possibility of further developing their enterprise in this direction. A flock of flying fish kept in a bowl by day and released in the bedroom by night might afford some relief."

Then the dreamer awoke and the mosquito question is still unsolved.

The Source of Success

I AM the foundation of all business.
I am the fount of all prosperity.
I am the parent of genius.
I am the salt that gives life its savor.
I have laid the foundation of every fortune in America, from Rockefeller's down.

I must be loved before I can bestow my greatest blessings and achieve my greatest ends.

Loved, I make life sweet and purposeful and fruitful.

I can do more to advance a youth than his own parents, be they ever so rich.

Fools hate me; wise men love me.

I am represented in every loaf of bread that comes from the oven, in every train that crosses the continent, in every ship that steams over the ocean, in every newspaper that comes from the press.

I am the mother of democracy. All progress springs from me.

Who am I? What am I?

I am Work. Whooperup!—*Furniture Manufacturer & Artisan.*

Thoughts for Salesmen

A Moral

WHEN the enthusiastic young traveling evangelist who was about to preach the revival sermon asked how long he could talk, we are told that the venerable pastor of the church replied that although the service was an hour long, it was his experience that if any souls were saved they were saved within the first twenty minutes.

Which reminds us of the equally ingenious manner in which Mark Twain in his "Sermon for Salesmen" uses an incident from his own career as a church-goer to make the same point:

"He was the most eloquent orator I ever listened to. He painted the benighted condition of the heathen so clearly that my deepest passion was aroused. I resolved to break a life-long habit and contribute a dollar to teach the gospel to my benighted brethren. As the speaker proceeded I decided to make it five dollars, and then ten. Finally I knew it to be my duty to give to the cause all the cash I had with me—twenty dollars. The pleadings of the orator wrought upon me still further and I decided to not only give all the cash I had with me but to borrow twenty dollars from my friend who sat at my side. *That was the time to take up the collection.* However, the speaker proceeded and I lost inter-

est and finally dropped off into a sweet slumber, and when the usher woke me up by prodding me in the ribs with the collection plate, I not only refused to contribute, but am ashamed to state that I stole 15 cents from the plate."
—*Wroe's Writings.*

Oh, You Father!

Billy Sunday on Fathers and Mothers

GOD, said Billy, was mighty particular about mothers. 'Most any old stick would do for a father, but mothers had to be fine, seasoned timber, not "poodle fondlers and bran mash drinkers."

"I'm old-fashioned enough to believe that there aren't enough devils in hell to pull a boy out of the arms of a Christian mother. If every cradle could be rocked by a Christian mother those hell holes of saloons would close to-morrow.

"Sometimes a boy would be better off if his daddy died before he was born. It's enough to make a mother despair when she tries to train her child not to swear, and then the father comes home cursing; when she tells him not to smoke, and the father sits around smoking.

"The Roman Catholic Church says, 'Give us the child until it is ten and we don't care who has it afterward.' That church is n't losing any sleep over the loss of adult members, because it has instructed the children."

Not all mothers did their full duty, though, Billy admitted. He thought he could give some of them valuable advice, particularly on the subjects of tango lizards and bullet-headed, spider-legged dudes. If such ventured into the vicinity of his daughter, the evangelist asserted that he would "get a forty-gallon squirt gun, load it up with Rough on Rats and buttermilk and drown the wretch."

Then there were those whose sins were the sins of commission rather than of omission. Such were the delicatessen mothers, who spent the day looking into shop windows, at the movies or dandling a little dog, and rushed home when the six o'clock whistle blew to telephone for potato chips and sliced ham.

There was also the nagging mother, the ill-tempered mother and the saddest mother. The last, Billy explained, always wore a velvet hat in August because it would be the style in October. That brought applause, and Billy exclaimed:

"I see I'm hitting you where you live."

TELLS OF OTHER MOTHERS

Then he went on to ticket the drunken mother, the irreligious mother and the discontented mother.

"Fathers get blue, get discouraged, commit suicide. But mothers put up the bravest battle in the world, even if they manicure their fingers over the washboard to be ready when the landlord punches the door bell on the first of the month.

"The mother's work is above all else. To find the throne of greatness don't go toward the White House, the bank, but toward the cradle. Being a king or an emperor is small business compared to being a mother. To plant a thought, to build a character, is better than building a skyscraper. God has plans for your child as well as for Moses.

"I like to think some of the great songs we shall love in heaven will be the mother songs of this world. The great singers are worth while, like Calvé, Patti, Tetrazzini and Farrar, but you have never heard music unless you have heard a mother sing to a sick child when she didn't know whether that child was going to get well or soon flutter out of her arms in death.

"Hell mourned when mother love first flamed up in a woman's heart, and the darkest fact in hell is that there is no mother's love there—all is black, endless, bitter hate."

Courage

ONE reason why brave men succeed so easily is the prevalence of cowards.

Most opposition is mere bravado, which withers upon attack.

For lack of courage, the masses cling to life-rafts and drift where the life-rafts go.

Only men who strike out where they sink or swim can hope to reach coveted ports.

Fear more than incapacity keeps men in ruts. And the feared things are bugaboos, usually.

Timid men often take seven years to do what other men do in seven months.

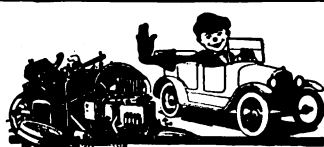
For fear of a risk they let rivals out-strip them, then flatter themselves on conservatism.

JUDGE—"Where did the automobile hit you?"

RASTUS—"Well, Judge, if I'd been carrying a license number it would have been busted to a thousand pieces."—*Wroe's Writings.*

Useful and Simple Conversions

	Multiply by
Inches to Millimetres	25.4
Millimetres to Inches .....	.0394
Inches to Centimetres	2.54
Centimetres to Inches .....	.394
Inches to Metres .....	.0254
Metres to Inches	39.4
Feet to Metres .....	.3048
Metres to Feet	3.281
Metres to Yards	1.1
Yards to Metres .....	.9144
Yards to Kilometres .....	.0009
Kilometres to Yards	1093.6
Kilometres to Miles .....	.62
Miles to Kilometres	1.61
Grains to Grammes .....	.065
Grammes to Grains	15.4
Grammes to Ounces .....	.35
Ounces to Grammes	28.35
Pounds to Grammes	453.6
Pounds to Kilogrammes .....	.455
Kilogrammes to Pounds	2.2
Kilogrammes to Ounces	35.3
Kilogrammes to Hundredweights .....	.02
Hundredweights to Kilogrammes	50.85
Kilogrammes to Tons .....	.001
Tons to Kilogrammes	1016.00



Steer Clear of the Scrap Heap

As long as you fail to use Dixon's, friction is bound to hasten the depreciation of your car.

DIXON'S GRAPHITE Automobile LUBRICANTS

Put a veneer of graphite over all bearing surfaces. Where graphite rides on graphite there is practically no friction.



Ask your dealer for the Dixon Lubricating Chart
JOSEPH DIXON CRUCIBLE CO.
Jersey City, N. J.
Established 1827

"Whither Goest Thou?"

COMPOSED BY MRS. MOREHEAD

(To Commercial Travelers)

HOW tired I am of that phrase!
Out of the year it greets my ear
Three hundred and sixty-five days.
When I leave home after a rest
The conductor on the train
As he takes a grip on my mileage slip
Fires this at me again:
"Where do you go from here?"

The hotel man gets sociable
As I pay for his high-priced cheer,
And as he drops my bill
Is growling still, as he says,
"Where do you go from here?"
The friends I meet on the street
Keep singing the same old song,
And all I hear the whole day long is
"Where do you go from here?"

At last I dreamed and to me it seemed
That my time had come to die.
With the angels bright I took my
flight
To the pearly gate on high.
There stood St. Peter at the foot of
the stair;
He looked at me with a doubtful air
And said, "Your papers, please!"
Then, grinning from ear to ear,
Said, "Oh! you're one of those
traveling men!
Where do you go from here?"

—Tick Talks.

St. Swithin's Day

WHO has not heard of St. Swithin and his day!

Not all of us, however, know that St. Swithin was the patron of Winchester, of which diocese he was bishop from 852 A.D. until his death on July 2, 862 A.D. The association of the fifteenth of July and its weather conditions with his name is founded on the legend that, before dying, the humble-minded bishop begged to be interred in the open churchyard instead of in a place of honor in the chancel. In the churchyard he accordingly lay for one hundred years. The monks of that time thought it unfitting that the tomb of the bishop of holy memory should remain in the churchyard, and so they determined to move his body to the choir of the cathedral. They appointed July 15th

as the day. But it immediately began to rain, and rained so hard for forty days that they were unable to carry out their intention. They took this for a sign of Divine displeasure, and, therefore, determined to build a chapel over his remains instead. Unfortunately for the truth of this story, the translation of his relics took place on July 15, 971, with no meteorological influences. His shrine in the cathedral was for centuries one of the most popular pilgrimages in England.

The above we read in our Sunday paper.

GRAPHITIZED COMMENTS

THE following about Dixon's Automobile Lubricants bears out our statement that "once used always used":

"We are very glad to say that we have used Dixon's Graphite Grease No. 677 in our transmission for one entire year and have had only good results. We tried Dixon's after experimenting with two or three greases of another make, which were discarded in favor of your grease.

"As matters look at present, we do not intend to make another change. We are now experimenting with your Dixon's No. 676 for universals, also with your cup greases, and expect to inform you of the results of our experiments in the near future."—Becker-Stutz Automobile Company.

"Your Mr. Williamson has asked us what we think of Dixon's Graphite Automobile Lubricants. We believe Dixon's Graphite Greases to be without a parallel.

"When we were in the garage business we sold your lubricants and in nearly every instance the customer who had once purchased Dixon's bought again. The fact that Dixon's cost nearly twice as much as any other seemed to have no depressing effect on the sale."—J. L. Zorn & Son.

"I HAVE been handling a full line of Dixon's Graphite Automobile Lubricants for over five years and I find the sale of them steadily increasing. Once we sell a customer any of Dixon's Lubricants we always receive repeat orders. This shows us that people are satisfied. I also believe that the missionary work that the Dixon salesmen are doing has helped the sales wonderfully.

"Hoping that the pleasant relations existing between us and the Dixon Company will continue."—Jacob Muller.

"WE wish to state that we have sold Dixon's Graphite Automobile Lubricants for several years and have found that they give satisfaction when used in the proper manner. Your products cost a little more than ordinary greases, but they are much better, and are worth more than the difference in price.

"In our three jobbing houses, located in San Francisco, Oakland and Los Angeles, we have found a very good sale for these greases and look for even better success in the future."—*Weinstock-Nichols Co.*

"WE wish to thank you for your kind coöperation with us in the matter of bringing forward your Graphite Lubricants, and also the manner in which you are handling the missionary work and follow-up system:

"We carry a complete line of Dixon's Automobile Lubricants and take great pleasure in stating that the sale is increasing by leaps and bounds, and further state that we have never had any complaint against your products."—*The Ready Auto Supply Co.*

"IN response to your inquiry as to conditions in effect with our trade on Dixon Graphite Automobile Lubricants, we are pleased to advise that our sale is constantly increasing.

"Reports from our trade indicates that it finds the product very satisfactory. Our men are manifesting an increased interest which is showing in their sales. One man alone sent in immediate delivery orders for 46 cases in one day last week."—*The Beckley-Ralston Company.*

"REFERRING to Dixon's Graphite Automobile Lubricant, our customers say 'it's the best thing they ever put in the car.'

"The satisfaction it gives them starts their tongues a-waggin' and it sells itself."—*National Rubber Co.*

"WE take pleasure in informing you that we are carrying a complete line of Dixon's Graphite Automobile Lubricants, which we handle to the exclusion of all others, for the reason that we believe them to be far superior to any other automobile lubricant we know of. Furthermore, we recommend their use for the Hall Truck and Modern Truck that we are agents for the sale of, as we are convinced that the saving in increased mileage and less expense in repairs greatly offsets the initial increased cost of the grease."—*Harry A. Edwards.*

GOLDEN BOUQUETS

OR WHY

DIXON'S ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"THESE pencils are excellent and I intend in the future to use them. I deal with —."—*Architect.*

"YOUR letter of recent date at hand, and I am pleased to state that I have tried the sample pencils personally and found them to meet with my requirements in every way. I have already purchased one dozen of the HB grade through our supply house and shall call for your make as other grades are needed."—*(Engineer.)*

"I HAVE received your inquiry as to my opinion of the samples sent me for trial. Although I have not had sufficient work of late to give them as thorough a trial as I could wish, yet I have seen enough of them to convince myself of their good-wearing qualities and general all-around service. . . . I will use them in preference to the foreign-made pencils I have been using, but at the present I am stocked up with the other brand."—*Architectural Designer.*

"I HAVE been giving the pencils which you very kindly sent me a thorough trial and find them very satisfactory in every detail. They are so well graded and do not crumble, faults which have been most annoying in other grades of pencils. Upon inquiry, I found that your pencils are carried by —, the dealer where my drawing supply is purchased, and I shall certainly specify 'Eldorado' on my next pencil order."—*(Artist.)*

"I HAVE found the pencils especially fine—even better than the foreign ones. Many thanks for the samples."—*(Architect.)*

"HAVING personally tried out the sample pencils you so kindly mailed to me recently, it gives me pleasure to state that I find the 'Eldorado' drawing pencil superior to any other high grade

pencil I have used, not only in smoothness, evenness of grain, and exactness of grading, but I think that it holds a point for a longer period of constant use than any pencil of the same or higher price that I have tried. Thanking you for the samples and for the names of Chicago dealers carrying a stock of your pencils, I wish further to state that if I find the regular supply as near perfection as I have found the samples, I shall not only continue their use, but shall recommend them to my friends."—*(Architectural Designer.)*

"I HAVE tried the samples that you sent me and found them splendid specimens of workmanship. The velvet smoothness of their marking is especially agreeable. Hereafter I shall use your pencils exclusively."

"I RECEIVED your pencils and after giving them a thorough trial find that they are the equal of the old acknowledged standard drawing pencil of foreign make in every respect. I consider that they are the best American-made pencils I have ever used. I am well pleased with your No. 352 Best White Pencil for use in sketching and correcting blue-prints."

"IN reply to your letter of December 12th would say that the samples of Dixon's 'Eldorado' drawing pencils were entirely satisfactory and I have advised the draftsmen to specify 'Eldorado' on requisitions hereafter."

FOR the sewing basket, for the photo album, and countless other places around the house there is nothing quite so handy as

DIXON'S BEST WHITE PENCIL
No. 352.

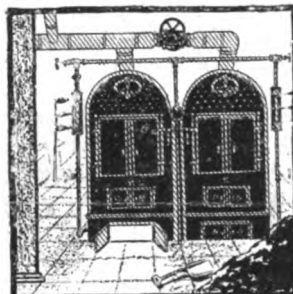
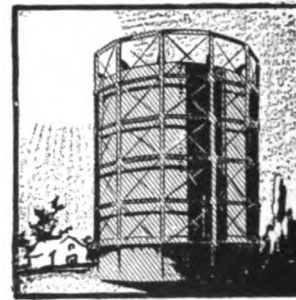
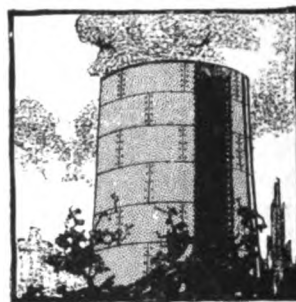
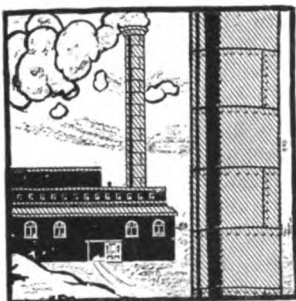
"IT WRITES WHITE."

"I WISH to thank you for myself and my class for the Dixon booklets, 'Useful Spanish Words and Phrases.' I received them some time ago and have been using them in my class to the interest and profit of the students."—*GRACE D. TEMPLE, Santa Cruz, Cal.*

"YES," said the cynical old sea captain, "when I was shipwrecked in South America, I came across a tribe of wild women who have no tongues."

"Good gracious!" exclaimed the listener. "how could they talk?"

"They could n't," was the reply. "That was what made them wild."—*Awgwan.*



DIXON'S

SILICA GRAPHITE PAINT



Preserves standpipes, tanks, pipes, boiler fronts, smokestacks, and all metal and wood work against corrosion, abrasion, destructive action of acids, heat, cold, weather, etc.

Dixon's Paint has been made for over fifty years in First Quality only—Four Colors.

Write for Booklet 190-B and for records of long service

Made in Jersey City, N. J., by the

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827



THE DE VINNE PRESS
NEW YORK

Graphite

VOL. XIX

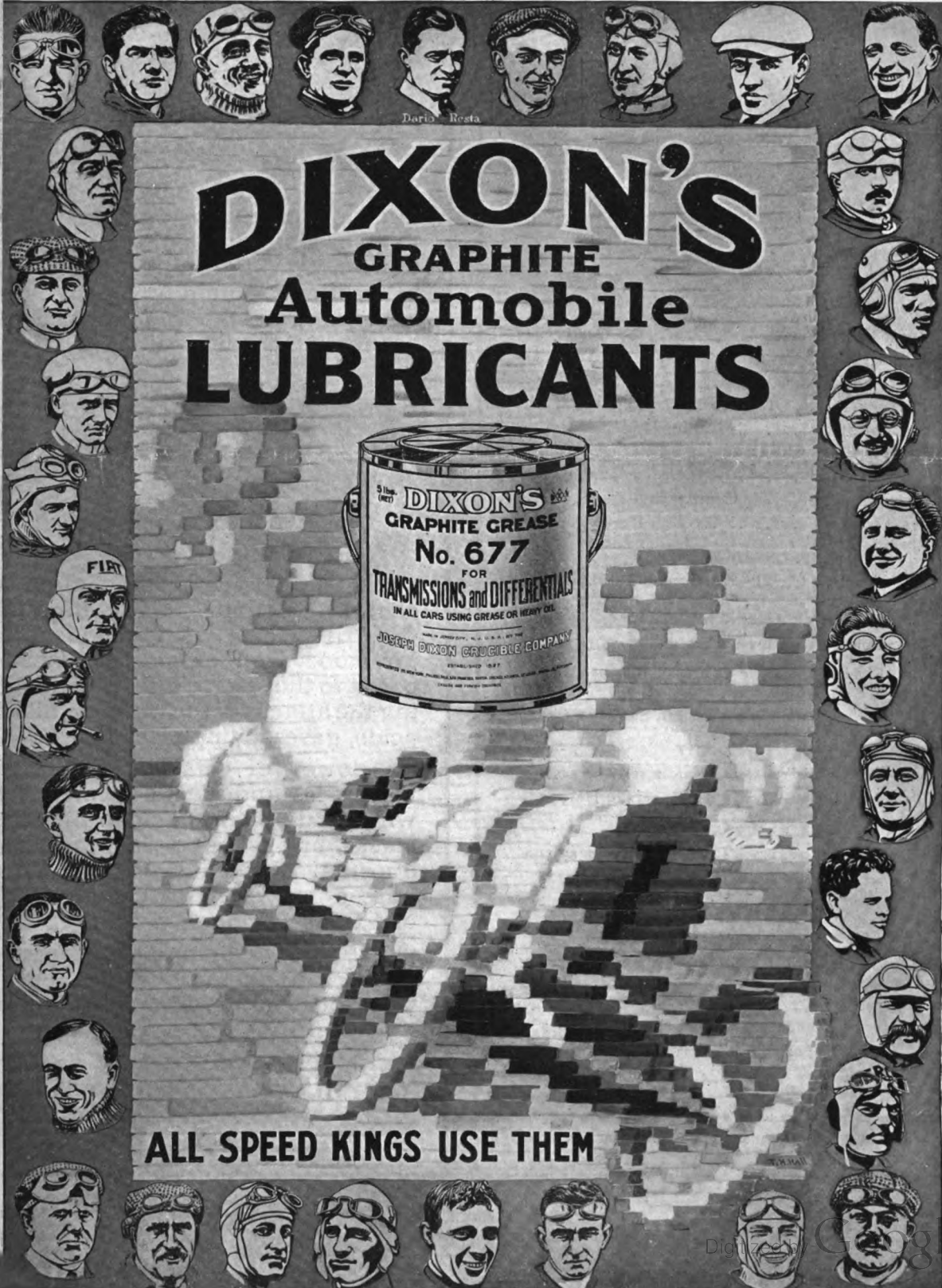
JULY, 1917

No. 7

DIXON'S GRAPHITE Automobile LUBRICANTS



ALL SPEED KINGS USE THEM



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868

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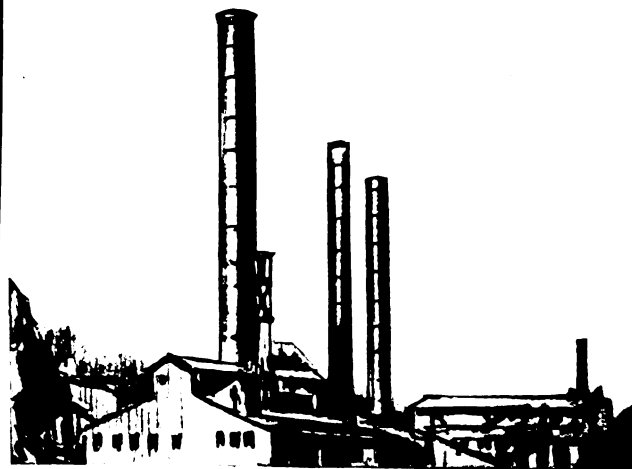
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Quality, Service and Economy in Protective Paint

"How Will It Wear?" is the main question in painting surfaces exposed to an exceptional degree of deterioration—not "What Will It Cost?" For in the long run a protective paint made to give the best service is an economy. Such a paint is

DIXON'S SILICA GRAPHITE PAINT

It is made to last for years—to withstand the ravages of climate and chemical action. Made in FIRST QUALITY only. It is the ideal paint for wood, iron or steel surfaces exposed to the severe tests of withstanding the attacks of the weather, alkalies, acids, gases, dampness, etc.

Its power of retaining its original toughness and elasticity means that when you specify this paint for tanks, stacks, bridges, fire-escapes, etc., the question of repainting may be dismissed for years to come. Consult our Long Service Record.

Our Paint Department is prepared to advise you promptly regarding your paint problems, without obligation.

Write us for Booklet 190-B

Made in Jersey City, N. J., by the

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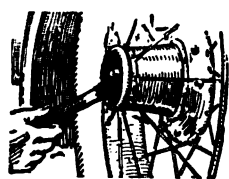
Graphite and Car Lubrication

How the Substance Acts to Reduce Friction and the Various Forms in Which it Can be Had

LUBRICATION! It's a word that should be written in black-face italic caps every time it is mentioned in connection with automobiles. It is, without the slightest doubt, the most important factor bearing on the life of the car and the service it gives.

Let's see what it all means and where the importance of lubrication comes in. Did you ever try to slide a brick along the sidewalk? It takes quite some effort, does it not? But take a smooth block of wood and slide it along a piece of glass—that takes no effort at all compared with the brick, even though the wood be equal or greater in size than the brick and quite its equal in weight.

The answer is *friction*. The surface of the brick is not smooth; it is made up of a few more than 49,000,000 indentations and little hillocks—likewise the surface of the sidewalk. And what happens?



The hillocks of the brick surface sink into the depressions in the sidewalk surface; and the hillocks on the sidewalk surface sink into the depressions in the brick surface. They clasp each other like long-lost brothers and resist with all their might every attempt to slide one along the other. And it is this resistance that we call friction.

tempt to slide one along the other. And it is this resistance that we call friction.

Now, go back to the wood block and the sheet of glass. The block is smooth—not perfectly smooth, for that is quite an impossible state—but far smoother than the brick and sidewalk combination. The glass is also much smoother. The hillocks are smaller and the depressions less deep. And as a matter of course, the grip the one exerts upon the other is less than in the case of the brick and the sidewalk—the friction is not as great.

Now, to apply that to the motor car. We have in each cylinder a piston sliding up and down and bearing against the cylinder walls. Neither the piston nor the walls are perfectly smooth, for however careful the manufacturer is with

the machine work, it is absolutely impossible to attain a frictionless surface—it can't be done.

So the maker smooths the surfaces out just as carefully as man and machine can do it, and then he "passes the buck," to resort to the street phrase. He shifts the responsibility of reducing the friction onto the lubricant, after, of course, providing an adequate lubricating system to see that every bearing on the car is properly oiled all of the time.

It stands to reason that there are still hillocks and depressions on every bearing surface throughout that car. The manufacturer admits that he cannot reduce them further by providing lubricating systems to compensate for the uneven surfaces which cause friction and wear.

If, now, we introduce oil or some other lubricant between the sliding surfaces, it is evident that the film of oil keeps the surfaces out of actual contact. The oil prevents the hillocks from grasping the depressions—provided it is sufficiently heavy to bear the load—and thereby reduces the friction between the surfaces materially.

But at that, there is still room for improvement. That will be evident at once to the motorist, who is told that fully 25 per cent. of the power available from his motor never reaches the rear wheels to propel the car—it is used up in overcoming the friction of the many bearings that are essential to motor car operation.



It stands to reason, then, that something that would put a smoother finish on the bearing surfaces and still further reduce their hold on one another would materially aid in reducing the friction and result in a better-running car. And *graphite* is that something.

Sounds sort of radical, perhaps, to suggest using a solid



substance in order to reduce the friction. But flake graphite, as it is prepared to-day, is so finely divided that it works its way right into each of the little depressions on the friction surfaces and smooths them out to the level of the hillocks, so that in the end we have two surfaces rubbing against each other that are as near frictionless as it is possible to create; fully 100 per cent. better than when not treated with the graphite.

Much depends, of course, upon the quality of graphite used and its fineness. It would be foolish indeed to attempt to use coarse flaked graphite on a finely finished surface, for the flakes would be too large to fill in the interstices in the metal and the graphite would simply take up so much space and act as a deterrent rather than an aid. Only the finest of flaked graphite should be used for the lubrication of cylinders and motor bearings, for instance, or for the lubrication of ball or roller bearings.

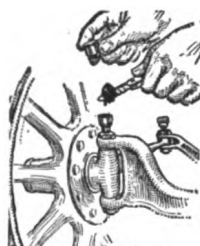


For the lubrication of gears, on the other hand, where the spaces between the teeth are comparatively large, the coarser flaked graphite is the proper caper for the same reason that grease or transmission oil is used in the gear case and differential instead of the thinner oil which is used exclusively in the cylinders.

For cylinder lubrication, it suffices to mix thoroughly a tablespoonful of the finest of flake graphite with about a pint of the oil ordinarily used, and to pour the mixture into the oil sump through the regular filler opening. It is well to run the motor while the mixture is being introduced, so as to mix the compound thoroughly through the oil already in the motor base.

Graphite used this way will not only reduce bearing friction in the motor itself, thereby increasing the power developed, but will also act to increase the compression of the motor, reduce valve sticking and pitting, and will actually make it possible to economize on the amount of oil used and tend to eliminate smoking.

For transmission use, any motor supply house is in a position to supply transmission oils and greases already mixed with the proper grade of graphite properly to lubricate the gears; and the same is true also of lubricants for use in the differential. For use on universal joints and other bearings that are liable to run hot, the proper grade of graphite to suit the conditions can be had mixed with a heat-resisting grease that will retain its consistency and consequently its lubricating qualities under all reasonable conditions of temperature.



Graphite pipe joint compound, such as plumbers use daily when making up steam and gas pipe joints, is recommended for use on the threads of spark plugs. It not only makes for tightness and freedom from leakage when the plug is inserted in the cylinder, but it also prevents rust and makes the removal of the plug for repair or replacement an easy matter.

Graphite cup grease for the lubrication of all the joints provided with compression grease cups—notably the spring shackles and the steering pivots—a special graphite lubricant combining the graphite with pure vaseline or petroleum, and graphite chain compound for lubrication of roller chains and silent chains, can also be had.—*The American Chauffeur, May, 1917.*

WE CAN ALL DO OUR BIT
TOWARDS MAKING THE
WAR A
SUCCESS



Copyright, 1917,
R. L. Goldberg

SAVE ALL YOUR PENCIL SHAVINGS—
THEY CAN BE USED FOR MAKING
SHREDDED WHEAT FOR THE ARMY.

THE above is reproduced by special permission of Mr. R. L. Goldberg and is particularly applicable to a part of our business. Mr. Goldberg, in giving permission to us, said our organist could play this cartoon on our house organ.

The Digestive Tract

IT has been cleverly said that about 95% of all truck and automobile troubles originate from improper lubrication, and that the lubricating system of an automobile or a truck is its digestive tract. The doctors tell us that something like 95% of all human ills originate in the stomach or intestines, so the same percentage of truck and automobile ills originate through lack of proper lubrication in the vital parts.

The oil companies prepare an oil which they advertise and sell largely to humans for internal troubles, and we are told that perhaps the chief function of that oil medication is in the way of better lubrication. It occurs to us that perhaps if a small portion of flake graphite were added to that oil it would better the medication, especially as the graphite is as sweet and pure as charcoal itself,—of which it is a twin brother. We know from many years' experience that a thin flake graphite like Dixon's is of the greatest value to all oils and greases used in the lubrication of machinery. The thin flakes of graphite form a veneer-like coating over the bearings, filling up all the microscopical irregularities and enabling the oil or grease to do infinitely better work because of the lessened friction and wear.

Land for Gardens

THE New York Central Railroad Company, according to their little bulletin, has issued up to May 15th some 300 licenses to employees, giving them the use of the Company's lands for garden purposes, without payment of any rent therefor. All employees may have this privilege by making application to the Superintendents or Division Engineers.

The Dixon Company has made the same offer to its employees at its graphite mines and mills at Ticonderoga.

Where Can I Get the Money to Buy a Liberty Bond?

BORROW it. Give an order on the boss to retain a dollar per week out of your pay if you buy a \$50.00 bond, or two dollars per week if you buy a \$100.00 bond, but don't take the money from the savings bank.

Borrow it now. Don't wait for any third or fourth loan asked by the Government. Remember the Government protects you in this bond—that is, if the Government asks for further loans at a higher rate of interest you are going to be in just as good condition now as you would be if you waited. You are being offered a bond for security which is beyond question the finest investment in the world. The rate—3½%—looks low, but there are perquisites attached to that bond; its income is free from taxation.

Purchasing Liberty Bonds is going to mean something besides patriotism in America. It is going to mean a new element in American life—it is going to mean an element of economy. We cannot give the Government billions of dol-

lars of purchasing power and expect to have just as much purchasing power ourselves. We have got to economize. We have got to see that what we spend we spend for necessities. At the present time we do not want "business as usual." Our business now is war. It is going to take the whole strength of this nation, and it is going to discommode people—probably discommode a good many people. You cannot have war without worries. Economize by buying as many Liberty Bonds as you can, and if you cannot bring yourself deliberately to the point of saving, give the boss or your employer, or even your wife, a dollar or two, or as many dollars as you can, from your pay envelope. Don't draw the money from the savings bank. The money in the savings bank is now invested in fixed forms. The money that is going to be saved is to come from the savings of the future, not the savings of the past.

ROLL OF HONOR

Subscribers to the Liberty Loan through the Joseph Dixon Crucible Co.

The subscriptions of the Employees and the Company amounted to \$1,060,000.00.

Many employees not listed below purchased bonds through their banks.

OFFICERS Geo. T. Smith Geo. E. Long J. H. Schermerhorn Harry Dailey William Koester Albert Norris PURCHASING DEP'T John I. McComb Jesse G. Freer Johanna Mueller ACCOUNTING DEP'T J. W. Robottom F. L. Hillmeyer C. F. Bush E. C. Brown Geo. V. Brasiel Andrew C. Rothar K. M. Moran CREDIT DEP'T V. J. Prescott PENCIL DEP'T Herman Price G. H. Reed C. E. Blanchard Mary E. Benter Robert P. M. Lewis Mabel E. Burger J. H. Brown A. J. Pfaff W. V. W. Budd CRUCIBLE DEP'T M. Seitz A. L. Haasis H. W. Armstrong H. V. Callanan Emma A. Schleicher LUBRICATING DEP'T L. H. Snyder H. L. Hewson Harvey M. Ragan A. G. Midlige H. P. Smith M. Nilan PAINT DEP'T L. M. Stocking H. W. Chase R. J. Cullen I. C. Schuhardt TRAFFIC DEP'T Isaac Kemp H. D. Erickson	F. G. Atkinson Karl Robbins BILLING DEP'T C. C. Van Anglen W. J. Hamilton Edna Morrall Frederick Midlige ADVERTISING DEP'T B. H. Rowley W. P. S. Burrell GENERAL R. Van Dien J. S. Haller A. M. Wilson E. H. Midlige M. C. Snyder Wm. M. Schult T. Weinmann Chas. C. Kelly M. L. Kelly SALES BRANCHES <i>New York</i> John M. Ready J. K. Moses F. H. Mix C. A. Williamson P. H. Meyers <i>Philadelphia</i> W. G. Stringer W. A. Houston K. P. Lewis <i>Boston</i> H. A. Nealley <i>Buffalo</i> J. A. Condit D. Thurston <i>St. Louis</i> H. A. Vanderslice H. F. Gorringer <i>Atlanta</i> J. H. Lewis J. P. Chase W. C. Mitcham PENCIL WORKS John A. Tracy Daniel Hunt Thomas Anderson Mary Atchison Lottie Balinski James Edward Barrett Theresa A. Berger	Helen Black Albert Bonomon Peter Brown William Brown Jack Bullock Rose M. Burdock Mildred Cassidy William Caulfield Mary Collins William E. Conroy John Crosby Wm. H. Dauke John H. Dechert Helen G. De Marco John Denehy Rose Denhoff Margaret Donahoe Charles Donzelli George Dowdell Caroline Doyle Sidney C. Ellerby John Flora Joseph Franklin Mary Gallagher Rose E. Gannen Catherine Garland Conrad H. Gehle Frank Gordon Alice Grandon Anna Green Joseph Green Lena Hinz Minnie Hunt Pasquale Imbriglio Irene Isele Frank C. Jacob James A. Jones Helen Kaminski Harriet Kaminski Lena Kampf Wm. B. Kappes Margaret Kaufman John Kearney Annie M. Kenney Margaret Kenney John Keough Fletcher Kilborn Charles Kranzow Henry C. Kranzow Mary Kwiatkowski James Kyle Stella Kzakiewicz Agnes Logan	Katherine Luckenbach Bessie Malone Matthew Markey Jessie Mathison Stasia Maxwell Howard Mayer Lucy McCabe Wm. McComb Anna McDermott Mrs. H. McDowell Jennie McGuinness Mary McNamara Sarah Metzger Geo. C. Meyers Frank Miller Margaret Moore Margaret Murphy Sarah Murphy Catherine O'Brien Maria O'Brien Mary O'Brien Sarah O'Brien Dennis O'Leary Thomas Perkins John S. Poole Henry Rappe Theresa Ryan John F. Sappah Toney Scarone Jacob A. Schick Otto G. Schmidt Kitty Schultz Charles Smith K. Smith Agnes Stevens Wm. J. Strain Louis Sutton Anna Symanski Pauline Topp Valentine Topp Lillian Vanderbeck Ella Varcarols Fred. Weisbrod Victoria Wisnieuska Christopher Youmans August Zahn Victoria Zeilinski Bertha Zoller COLOR & LEAD WORKS F. Engelbrecht Julia Ames S. B. Anderson Stephen Bolha	Margaret Brown Mildred Comiskey Nora Dolan Gertrude Fagan Anna Foley Frederick Fuess Reinhard Hanson Henry A. Heilman Julia Johnston Fred. Kahleke Helen Lynch Susie Mannion Catherine Moore Anna Muller Carl Negrey Anna Newbouse R. L. Noonan John O'Connor Andrew Rodak Wm. J. Sullivan Lillian Schaefer Jacob Wahl Madison E. Weidner POWER PLANT Chas. A. Moore William Burns Bryan Coyle Samuel G. Dalrymple Thomas Ehnore Edward Lentz William A. Seeliger May Schernitz Harry A. Stivers CRUCIBLE WORKS George Neighbor Michael Blaich Lewis U. Brower Fred. W. Cochran Charles J. Dechert Robert Galloway Peter J. Gannon Andrew Grabau Michael Grabler John Heintz Chas. Hielscher Ralph I. Fevre M.C. MacNaughton Richard J. McGuire William Miller Theran R. Prindle Oliver Franklin Smith Patrick Smith J. E. Thomsen	Henry J. Weisbrod Harry W. Wilkens Paulet Dzirizinski WEST BERGEN CRUCIBLE WORKS Joseph H. Sofield F. A. Becraft Philip P. Bender R. P. Carey William Curtin Bernard Elsinger John Daniel Hess Charles Meyer John H. Meyers COST ACCOUNT. DEP'T J. H. Lippincott Marion E. Brod Francis T. Courtney Tobias Flinsilber Arthur S. Fox Harry Grube Everett Johnson W. F. Schuermann GREASE AND PAINT WORKS M. McNaughton John Motion Clarence Brown Alice Carroll Mary Carroll Patrick Clarke Thomas F. Connolly Edgar Demarest Michael Gaul Frances Guilfoyle Walter Hakey F. Garfield Harrison Louis Henry John Ihde George H. Jackson Dennis W. Jewell M. J. D. Jones Martin Lane John Madden Charles Marlow Katie Montague Abbie O'Connor Emma J. Ramsey James Skinner Amelia Warren Murray Williams Herman Witt
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The National Flag

THE *New York Herald* tells us that the Stars and Stripes is the most beautiful flag of any nation of the world.

It is the flag which George Washington, the first President of the United States, originated and caused to be made in Philadelphia after his own idea.

Careful research recently instituted reveals a claim by the Danes that a red swallow-tail flag with a white cross, which Denmark adopted in 1219, is the oldest of flags, but disputants bring counter claims of alterations in their flag, thus setting aside this claim.

There is evidence in court records that Denmark, Switzerland and the United States each figure as claimants for the precedence.

The Swiss flag, a red field with a white Greek cross, has been in existence unaltered as the flag of a Canton since the seventeenth century, but Switzerland has only been a nation since the Confederation of 1848.

The splendid Betsy Ross, unchanged flag, dictated by the immortal George Washington, takes its place as the oldest and the first in leadership, because it is the same Stars and Stripes from 1777.

All the other greatly respected flags are youngsters in comparison with "Old Glory." Spain's standard was established in 1785; Great Britain's, 1801; Netherlands', 1806; Japan's, 1859; Italy's, 1861; Germany's, 1871, and the tricolor of France, 1794.

Wide-awake Japan

THERE appears in *Commercial Reports* a translation from an article contributed by a Russian writer and forwarded by Consul C. K. Moser, Harbin, China, under date of December 16th. It tells us that Japan has in recent years developed its manufactures, has found new markets for its products in Russia and in Central and South America, and now has the very best opportunity to become one of the foremost commercial countries.

Since 1903 Japan's foreign trade has been increased over 100 per cent. In 1915 it amounted to \$670,500,000.

Japan's business was chiefly with England (27 per cent.), America (23 per cent.), and China (20 per cent.). In 1915 Japan's trade took a turn for the better. The exports exceeded the imports by \$87,900,000. In the first half of 1916 the exports exceeded the imports, according to preliminary reports, by \$40,000,000.

At present Japan has 16,000 factories, using 1,125,000 aggregate horsepower and employing 1,500,000 workmen. On July 1, 1916, Japan had a fleet with a net tonnage of 1,169,105. The Japanese wish to reach such a state in their industries that they may feel the least possible dependence upon other countries. This, however, is very difficult on account of the scarcity of natural wealth in Japan.

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FIVE of the greatest words in the English language begin with H: Health—Hope—Home—Happiness—Heaven.

Health is a Hope place—Hope is a Home place, and that man is sadly mistaken who would exchange the Happiness of Home for anything less than Heaven.—*Carlyle*.

"PROSPERITY has a way of walking with all men—all concerns—who serve well."

Progress

SOME of us have bemoaned the fact that we are not good penmen, but according to our friend, Mr. H. F. Frasse of Brooklyn, there are good penmen who sometimes turn out no better than "Jim, the penman."

Mr. Frasse tells us of two men who met one day and discovered that they had been in the same institution, same class, and passed with equal honors, then gone their respective ways.

Due to having been a good writer, the man who had become a tramp found a position with comfortable surroundings, was not required to work VERY HARD and consequently took life easy; while the other, not fortunate in being able to write well, was attracted through mechanical inclination to go into a machine shop, and there he struggled manfully with long hours and laborious work.

Usually the hard work performed in early life enables a man to live comfortably later on, while often those who step into positions of ease are not required to make the effort and consequently fail at the time of life when they should be looking forward to the happiness advanced age ought to bring.

Those who study and make preparation in order that they may step into positions of responsibility when the time comes will receive promotion. All work and no play makes Jack a dull boy; therefore, one should read stories to amuse as well as study books for the information and help to be gained. Books serve to stimulate the imagination; to inspire to further study; to lift one above the cares and trials of daily life and furnish one with further impulse. He who reads and notes what he observes will be in readiness for the demand on his powers.

The above is from an article "To the Members of the Purchasing Department, Good Fellowship Club," written by Mr. Frasse whom we have mentioned above.

Return Goods

CONSIDER the following prime facts about the return of goods once bought as set forth by the *New York Tribune* after interviewing some of the big department stores in New York.

Probably five million dollars is wasted yearly in New York City through unreasonable return of purchased goods.

Twenty per cent. of all goods sold are returned. Not once in a hundred times is there any sound reason for the return.

Thirty per cent. of all charged goods are returned. It's the charge account which forms the habit.

These percentages are increasing yearly.

It takes 150 per cent. of delivery to sell 100 per cent. of merchandise. The extra 50 per cent. goes into reselling returned goods.

Every article purchased and returned goes through nineteen hands in the process.

One store spends ten thousand dollars yearly in cleaning returned goods.

Another store wastes more money in the expense of handling returns than it pays for rentals.

The return habit is unsanitary, unfair and expensive.

It is the fault of the men and women who buy, and it is partly the fault of the stores themselves, for they encourage the practice by over-salesmanship, by pressing upon the customers goods which are not really wanted. Moreover, they wink at the abuse, even in extreme cases, by permitting the habitual offender to continue, instead of cutting her off from the charge privilege.



Joe Boyer, Jr.

JOE BOYER, JR., who won second with a Frontenac at the recent Universal Trophy race at Uniontown, Pa., writes: "I use Dixon's Graphite in both my racing and pleasure cars and appreciate same very much."

Billy Taylor, who won first in the same race in a New-man-Stutz, says: "I have used Dixon's Graphite Automobile Lubricants during my entire racing career. Under no consideration would I use any other in any car I operate."

Our New Colony in the Caribbean

THROUGH the courtesy of R. G. Dun & Company, we have the following concerning the Danish West Indies Islands which became the property of the United States in March last.

The purchase price was \$25,000,000. In 1865, Denmark offered to sell for \$7,500,000. The United States Senate failed to ratify. Later on Denmark offered to sell the islands of St. Thomas and St. John to the United States for \$4,750,000.

The United States failed to take advantage of the offer, even though in both cases mentioned the inhabitants of the islands were largely in favor of the United States taking them over. In 1902, under President Roosevelt, a treaty was negotiated for the purchase of the entire colony for \$5,000,000. At that time Denmark would not agree. At the price now paid by the United States—which averages approximately \$300 per acre for land only a portion of which can be cultivated successfully—their chief value is strategic, both naval and commercial.

The principal island of the Danish group is St. Thomas, situated about 40 miles due east from Porto Rico. Its total area is $28\frac{1}{4}$ square miles. The entire island is hilly, the highest elevation being 1,560 feet. The soil is good, but very little attention is paid to agriculture. Hemp, jute and other fiber-producing plants and tropical fruits could be profitably grown on this island. It has a fine natural harbor on the south side—Charlotte Amalia.

The island of St. John is situated four miles to the eastward of St. Thomas. It has an area of nineteen square miles. On its eastern coast is Coral Bay, which engineers state could be developed at moderate expense to be one of the finest harbors in the West Indies. St. Croix is much larger than the other two islands, having an area of 74 square miles. It is hilly in the northern part, but the southern portion of this island consists of fertile plains and low rolling country well suited to agriculture.

Our Cover

THIS month's cover is a reproduction of the new Graphite Automobile Lubricant Poster.

Most of our readers will recognize the faces as those of prominent racing drivers. These drivers have come to look upon Dixon's Graphite Automobile Lubricants as standard equipment for their racing and pleasure cars because they know Dixon's Graphite Automobile Lubricants are 100% efficient.



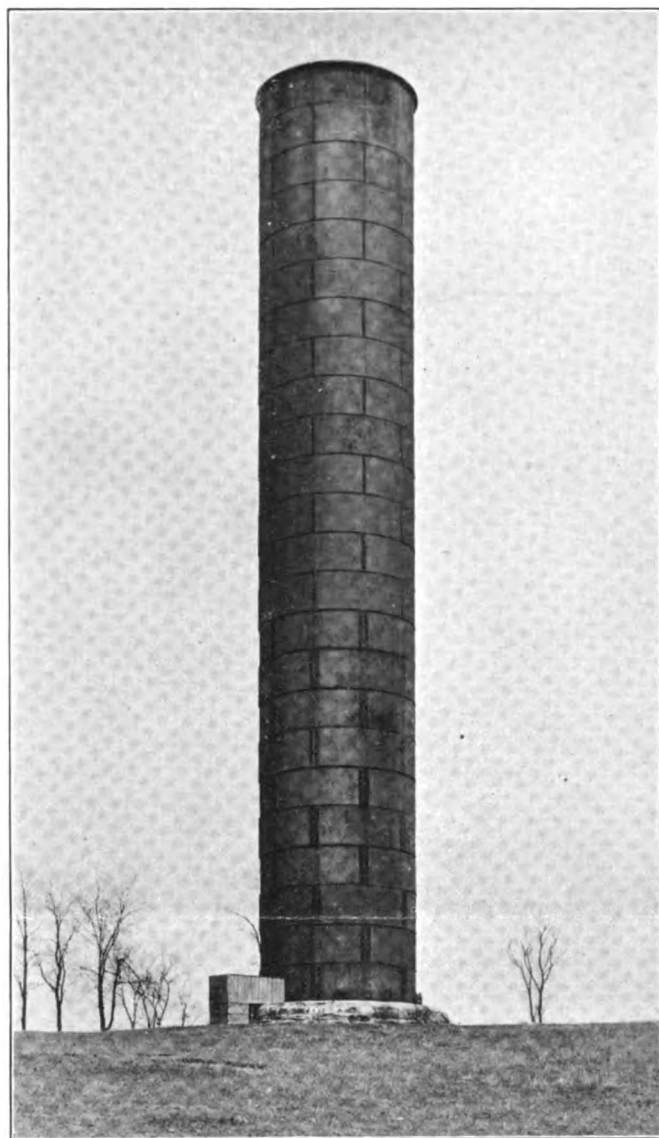
Steel Tower, Hot Springs Mountain,
Hot Springs, Ark.

THROUGH the courtesy of the well-known architect and superintendent of the famous Hot Springs, Ark., resort, Mr. F. J. W. Hart, we illustrate above the conspicuous steel tower at Hot Springs Mountain.

Dixon's Silica-Graphite Paint has given a service of seven years on this tower, having been applied in 1910.

We invite the many visitors at Hot Springs to examine Dixon's Paint after its seven years of service. It clings closely to the metal. It does not flake off or allow dampness to get under the film. Nature's mixture of the flake silica-graphite, alone mined by the Dixon Company, affords a fine fish-scale-like covering.

Be sure to specify and use Dixon's Silica-Graphite Paint on your metal work when you are in need of a long service protective coating.



The Water "Teddy" Drinks

THERE is reason for this title, as we shall presently show.

The above illustration shows the standpipe of the Nassau County Water Company, Glen Cove, N. Y.

We are gratified to be able to quote the following testimonial:

"Referring to Dixon's Silica-Graphite Paint, beg to say that we are more than satisfied with the length of service it has given us.

"The standpipe at Glen Cove, which is 120 feet high and 25 feet in diameter, was painted with Dixon's Paint eleven years ago (fall of 1906), with two coats on the inside and outside, and to-day it is in first-class condition.

"The standpipe at Oyster Bay is 110 feet high and 20 feet in diameter. It has been painted only once in five years with one coat inside and outside. The water at this station is very hard on iron, pitting the pipe and corroding same, but when standpipe was emptied, the inside was found to be in A No. 1 condition.

"We intend painting the standpipe at Glen Cove this coming fall, and will require about two barrels of Dixon's Silica-Graphite Paint when work is started."

Dixon's Silica-Graphite Paint thoroughly protects the outside of the standpipes owned by this concern against the weather and other attacks. It also wholesomely protects the *inside* of the standpipes, and the water that the vigorous "Teddy" drinks is kept sweet and free from corrosive solution by Dixon's Paint.

We hope that all other good citizens and all other patriotic water companies will use Dixon's Silica-Graphite Paint both on the inside and outside of their standpipes, tanks, towers, etc.

The pigment is inert and does not injuriously affect water. The paint lasts longer and therefore costs less per year when you divide the long years of service into the first cost.

We make only *one grade*—the *best*, which is a guarantee of quality.

W. F. Gernandt

Architect
437 1/2 KNEELAND BUILDING
Phone Omaha 4676
OMAHA

Omaha, Nebr., April 23rd, 1917.

Joseph Dixon Crucible Co.,
Jersey City, N.J.

Gentlemen:

We are pleased to advise that the samples of Dixon's Eldorado Master Drawing Pencils were duly received and tested and carefully tried out to compare these new pencils with other manufacturer's that have been used in this office in the past and am pleased to advise that the Eldorado Pencils have proved entirely satisfactory.

You are surely to be complimented for producing a pencil with an elegantly smooth lead with a special stress laid upon the firmness of their sharp points being less apt to break under pressure than any pencil we have used in the past and this is another great point in favor of the Eldorado Pencil.

Our Dealers are the Omaha Stationery Co. We shall hope that a stock of your excellent pencils may be kept in our city by some of the dealers to enable us to procure them when desired.

Yours very truly,

W. F. Gernandt,

Architect.

By *W. F. Gernandt*



Dave Lewis

DAVE LEWIS, another one of the winners at Uniontown, Pa., races, says: "I am convinced of the merits of Dixon's Graphite Automobile Lubricants and will both use and recommend them in the future."

All of the first ten cars in the Universal Trophy race at Uniontown were Dixonized throughout. Their drivers included Billy Taylor, Eddie Hearne, Louis Chevrolet, and Barney Oldfield.

South American Business

WE are frequently told that there is a whole lot for the American manufacturer to learn in regard to export business. Such statements are never very palatable, but a good many of them are evidently true.

The United States attaché located at Santiago, Chile, has given us instances, taking beds as an illustration. He writes:

"It is said that American brass loses its luster in much less time than English brass. In one case, twin beds sent from New York to Santiago were not alike and the rods were not of the right length. The purchaser was unable to set them up without recutting the threads. A further difficulty was then encountered because English—not American—thread is commonly used here. The United Kingdom leads in the sales of beds to Chile. The United States sells only twenty-two per cent. of the brass beds and four per cent. of the iron beds coming into Chile."

In the same advice we read:

"European houses give credits of ninety and 120 days, but New York houses generally demand payment before the shipment of the goods. For European goods documents are accepted when it is known that the goods have arrived, and the firm agrees to pay, for example, ninety days later. When these ninety days have passed a draft is purchased, payable at the end of another ninety days, which is sent to the factory. One European house gives the firm interviewed 120 days and charges interest during this time at four per cent. per annum, but no interest is charged while the goods are on their way to Chile nor while the money is on its way to Europe.

"Other houses collect interest at six per cent. from the date of shipment of merchandise from the factory until the money has arrived at the factory.

"It is stated that English bedsteads cost more than American bedsteads, but are better and more carefully packed. When an English bedstead is shipped each piece is numbered by means of a tag and that number agrees with the setting-up plan, which is shown on the catalogue or sent separately. This facilitates greatly the erection of the bedsteads, as they are generally shipped knocked down. An American bedstead, if part of a fairly large shipment, has to be strung out and the pieces picked from the various boxes with such care that much time is lost. Often pieces are misplaced and have to be removed, and if bolts and nuts are used the thread is sometimes jammed in the operation."

It is quite probable that the American manufacturer will better succeed in securing business in South America if he follows the method of his English and German competitors and sends ahead of his salesmen some man competent to bring him back necessary information in regard to goods wanted, how they are wanted, how they must be packed, information in regard to tariffs, whether the tariffs are specific or *ad valorem*, and all other information necessary for a thorough understanding of the conditions that are to be met.

THE captain of industry was addressing the students of the business college.

"All my success in life," he declared proudly, "all my enormous financial prestige, I owe to one thing alone—pluck. Just take that for your motto—pluck, pluck, pluck!"

He paused impressively and a meek little student on the front row said:

"Yes, sir, but please tell us how and whom did you pluck."

Graphite for Boiler Scale

By J. BORRIE, V. I. E., MELBOURNE, AUSTRALIA

IT was with much interest that I read the correspondence in *Ice and Refrigeration* on the question of removing magnesia scale from boilers. In March last, the Federal Milk Proprietary, Ltd., for whom I am acting as consulting engineer, commenced operations at Bacchus Marsh, using well water for the boiler. At the end of one month I found the boiler so heavily coated with magnesia scale that it was absolutely necessary to change the feed water from the well to the town supply; this supply was not so heavily charged with magnesia, but, in common with all the water in the district, contains a good percentage of it and is not considered good water for boilers.

The boiler in question was an underfired multitubular 16×6 feet, with sixty 3½-inch tubes, evaporating from 4,000 to 4,500 pounds of water per hour. I was advised to use with the feed water a certain amount of boiler graphite daily, and the question then arose: Would the fine particles of graphite be carried over in the steam and affect the milk, as in the process of manufacturing condensed milk the live steam comes into direct contact with the milk. But after six months' trial no trace of it has been found in the milk. The amount of graphite used daily was about three ounces. About two inches of water was blown out of the boiler every day.

At the end of six months, using the boiler seven days per week, it was opened and carefully examined. The result was most gratifying; there was no trace of any fresh deposit of scale on the tubes and plates, and, further, a great part of the former deposit of scale was removed and without any washing out the boiler was cleaner than when it was examined six months previously. The fine particles of graphite find their way in between the scale and the steel, so that the scale gradually works off.

The freshly precipitated magnesia was so thoroughly mixed with the graphite in the bottom of the boiler in the form of slime that it was easily washed out, and I fully anticipate in another six months to find the boiler freer of scale than at present. I am convinced that if it were used freely in a new boiler there would be no trouble with scale.

The most convenient way to use it is to insert a tee in suction line of the feed pump, and attach to the tee a vessel with a stop valve at the bottom. In this vessel mix the graphite with water, and draw in with the feed pump. In the course of conversation other engineers have informed me that their experience has been the same.—*Ice and Refrigeration*.

THE lubrication of railway engines is said to be one of the most pressing problems in Germany owing to the scarcity of good lubricants. It is stated that the latest reports in the hands of the Government show that 8,000 locomotives were laid up at Essen alone on account of wear and tear caused by the employment of bad lubricants. Is it any wonder that there is an embargo on Dixon's Graphite Lubricants which prevents them being sent to Germany?

Two years or so ago the Dixon Company got out a little pamphlet entitled "Useful Spanish Words and Phrases." It exercised the greatest possible care in getting out this pamphlet and it has been pleasing to know that the pamphlet was not only acceptable to travelers and others, but was also considered invaluable among the United States soldiers on the Mexican border. Now we learn that this little pamphlet of ours will be used in the Department of Spanish Language and Literature of Wellesley College, Wellesley, Massachusetts.



Jack Lewis, Onion Advocate

"FOR years I have entertained sentiments against the humble onion," declared Jack H. Lewis, whose intensified 16 by 20 plantation is the agricultural show place of Tenth street.

"But," continued Mr. Lewis, perspiring like a peasant and eating young onions like a plutocrat, as he surveyed his fields, "that was before I began raising the tantalizing tomato, the appetizing asparagus, the charming cauliflower and other vegetables that come after the 'aux' on our best cartes du jour or carte du jours, as you please.

"I planted tomatoes and asparagus and cauliflower when our garden campaign raged, but you see I eat onions."

"The onion, I suppose, is the product of your own husbandry?" asked the remorseless interviewer.

"Not at all," replied the planter. "I told you I was converted to the onion by tomatoes and asparagus and cauliflower. The onion came from a fashionable grocer. You may have one if you have a quarter."—*Atlanta Sunday American*.

Strange

"POP, can we see sound?"

"No, my son."

"And yet lots of things look like thunder don't they?"—*Exchange*.

Love and Marriage from the Viewpoint of "Alice"

SOME maid who signs herself as "Alice" writes to a daily paper on the matter of love and marriage, and among other things she says:

"Love causes a man to ask a girl to the theater when really he'd far rather stay in and talk with her. Love causes the girl to stay in and talk with him when really she'd far rather go to the theater.

"Love is concerned only with a divine joy of living and ignores all ignoble sentiments such as duty. Love gives and takes happiness. Marriage is a question of economics. It is founded on a pay envelope and runs on a budget. Marriage gives and takes obligation.

"Love is poetry. Marriage is a problem in arithmetic—with the answer in the back of the book torn out."

Down-trodden Father

SOME chap who evidently has a very able better half has opened up the question of the abuses and cruelties inflicted upon the modern-day father.

He maintains that there has been no allowance made for Father in the architectural designs of life. It is true that Father has functioned there in a financial and occasionally in a political way. But in society he has been so long in disuse that he has disappeared entirely, like the banana seed. He has a business existence, but no longer a personal one.

There are a thousand uplift societies for Mother to one for Father. We have a Mothers' Day, and on that day we wear white flowers. We have the fondest memories for her pies. We do not name days or organizations for Father. We have no real faith in his interest in the betterment of the race. Billy Sunday tells us any old stick can be a father. Billy believes in the mothers and he calls his own wife "Ma."

There is no such thing as a safety-valve for fathers. When the tension of business begins to tell upon Father's tired nerves, he cannot even shed a few relaxing tears—it is not done in the best business circles. He must just go on and on in the eternal treadmill.

It is a gloomy outlook for Father. There should be a Federal inquiry into the matter. The mills of justice grind slowly, and Father will never have time to wait.

From Far-off Australia

WE quote the following from a letter which shows the far-reaching influence of GRAPHITE, as well as the world-wide reputation of the Joseph Dixon Crucible Company:

A lady living in Sydney, Australia, has been the "happy recipient" of GRAPHITE through the courtesy of her brother living in New York City.

Her husband is also an interested reader. One evening a gentleman who was calling there happened to pick up GRAPHITE and noticed an article on crucibles in it. He made the remark that he was in the market for a high-grade crucible and would like to know something about the Dixon crucible.

The lady's husband informed the gentleman that he was not personally familiar with the Dixon crucible itself, but he believed that if it was as high grade as the other Dixon products there would be no question as to the quality.

We have not received any direct order for crucibles, as any such order would naturally come either from our London office or through some New York commission house.

The Thermometer

THE thermometer usually employed in scientific work is the Centigrade thermometer, on the scale of which the melting point of ice is 0 deg. and the boiling point of water (at a pressure of one atmosphere) is 100 deg., while on the Fahrenheit scale the corresponding points are 32 and 212 deg., respectively. Where preference is given to the Centigrade scale rather than Fahrenheit the conversion of temperatures from one scale to the other can be readily accomplished by the use of simple formulas.

(a) To convert Centigrade to Fahrenheit temperatures, multiply the degrees Centigrade by 9/5 and add 32 deg.

Example: To convert 20 deg. C. to Fahrenheit:

$$\frac{9}{5} \times 20 + 32 = 68 \text{ deg. F.}$$

(b) To convert Fahrenheit to Centigrade temperatures, subtract 32 deg. from the degrees Fahrenheit and multiply the remainder by 5/9.

Example: To convert 77 deg. F. to Centigrade:

$$\frac{5}{9} (77 \text{ deg.} - 32 \text{ deg.}) = 25 \text{ deg. C.}$$

—*Brass World*.

GRAPHITIZED COMMENTS

THE following about Dixon's Automobile Lubricants bear out our statement that "once used always used":

"We attribute our success with your lubricants to the following facts:

Good goods.

Liberal advertising.

Your policy of coöperating with the dealers.

"We have entire confidence in the Dixon Co. and its products and appreciate the assistance we receive, and are willing to coöperate with you at all times."—*Lowe Motor Supplies Co.*

"HIPPEE-STATES CO.,
Des Moines, Iowa.

May 1, 1917.

"We have been handling your Graphite Products for some time and have found through experience that selling Graphite for Lubrication is simply a matter of education. As car owners learn about the superior lubricating qualities of Graphite Grease they are anxious to try it out, and if they can be persuaded to give it a trial they use Graphite in their cars thereafter.

"We have had a rapidly growing business in the Dixon Products during the past year and are more than pleased with the results as a commercial proposition, and we believe that within a very short time it will be one of our large lines.

"(Signed) *H. F. Shepherd, Mgr.*"

"We beg to state that we have been selling the Dixon line of lubricants for many years, and because we have a very fine class of trade demanding the highest grade of lubricants, we have adhered to the Dixon line.

"We have no difficulty in convincing our trade of the exceptional merits of Dixon's, and because of the fact that it is well advertised it becomes a very ready seller.

"Our years of experience in selling the line has been exceedingly satisfactory both to ourselves and to our trade."—*Brophy Barrabee Co.*

It is easy to sit in the sunshine
And talk to the man in the shade;
It is easy to float in a well trimmed boat
And point out the places to wade.

It is easy to sit in your carriage
And counsel the man on foot,
But get down and walk and you'll
change your talk
As you feel the peg in your boot."
—*Exchange.*

GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"We beg to acknowledge the receipt of your samples of Dixon's 'ELDORADO' Pencils, and have given them a thorough test as to the smoothness while using on fine work, the strength of the lead and fine quality in general. This can assure you that we will only be too glad to use the 'ELDORADO' Pencil, as it bears the uniform lead that the Draughtsman or Architect has been looking forward to for some time."—*(Architects.)*

"I WISH to thank you for the samples of your 'Eldorado' drawing pencil that you kindly sent me recently. I tried out the samples given me by your Mr. — and Mr. —, and found them to be of excellent quality. I have tested these against the — and the —, imported pencils, and find them equivalent to the former and somewhat superior in uniformity to the latter. I am sure that engineers generally will welcome this excellent American-made pencil."—*(Engineer.)*

"I AM in receipt of your sample pencils and they are the most finished pencils I have ever had."—*(Draughtsman.)*

"As far as I have been able to test them out, the samples of 'Eldorado' and 'White' Pencils have proven very good indeed and I shall never go back to the imported article."—*(Architect.)*

"YOUR inquiry is at hand concerning the samples of Dixon's 'Eldorado' Pencils sent me some time ago. In reply will say that I have found them to be of excellent quality, the leads being of fine texture, smooth and uniform, and naturally delightful to work with. I think that I can say with safety that they were fully the equal if not the superior of any pencils I have ever used, and I do not think that there are any well known brands which I have not tried."—*(Artist.)*

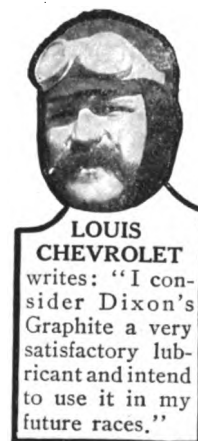
"We beg to acknowledge the receipt of samples of your 'Best White' and 'Eldorado' pencils. They have been tried sufficiently to enable us to form a definite opinion as to their qualities. The 'Best White' pencil will be extremely useful on blueprints and other dark surfaces, and the 'Eldorado' is fully equal to the — in all respects, and may, with further trial, prove to be superior to it."—*(Engineer.)*

"REPLYING to yours of yesterday, we have used the pencils and like them as well as —. We can give no higher praise."—*(Architect.)*

"PLEASE accept our thanks for the samples of 'Eldorado' and 'Best White' pencils which you so kindly sent us. They are a requisite to the draughtsman just as precision is to the instrument maker, and when occasion permits we shall be glad to specify them on our orders."—*(Architect.)*

"REFERRING to your favor of April 9th, we have used your sample pencils for the last month and find them very satisfactory. They are much more satisfactory than the pencils being supplied us by our purchasing department at the present time. They seem to be smooth and regular as to quality, and the quality is very high grade. I consider them equal to the old — pencils which we formerly used."—*(Railroad.)*

"THE pencils came O.K., and I thank you for them. I think the 'Eldorado' one of the best I have ever used in stenographic work."—*(Stenographer.)*



LOUIS
CHEVROLET
writes: "I consider Dixon's Graphite a very satisfactory lubricant and intend to use it in my future races."

LOUIS CHEVROLET, who finished first in the 250-mile race at Cincinnati, Memorial Day, was Dixonized throughout. His time was 2.26:47.90 or an average of 102.18 miles per hour. He also won fourth in the recent Universal Trophy Race at Uniontown, Pa. Louis Chevrolet, as well as other prominent racing drivers, has found the only way to beat Friction is with Dixon's Graphite Automobile Lubricants—the 100 per cent. Lubricants.

Take a Leaf from the Racers' Book

Lubricate with Dixon's. Famous racing drivers keep their cars free from Friction because it is the greatest risk they run. Think of the tremendous strain put on every bearing, the enormous heat generated. What is the answer? Every well-informed "Speed King" lubricates his car with

DIXON'S
GRAPHITE
Automobile
LUBRICANTS

Dixon's Wins!

At Uniontown, Pa., May 10th, in the Universal Trophy Race, Dixon's won nine of the first ten places, with Billy Taylor first, Joe Boyer second and Eddie Hearne third. In the Dealers' Race, at the same time, Dixon's won the first five places.

At Cincinnati, in the Memorial Day Race, all but two of the "Speed Kings" lubricated their cars with Dixon's. These included both Chevrolets, who won first and third.

At Chicago, June 16th, Dixon's won first with Earl Cooper, and placed with Durant, Hearne, Haines and others.

Dixon's will prove just as dependable for you, whether you drive for business or pleasure.

Write for our new booklet No. 190-G

Made in Jersey City, N. J., by the

JOSEPH DIXON CRUCIBLE COMPANY



ESTABLISHED 1827



THE DE VINNE PRESS
NEW YORK

N. H. L.

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AUG 13 1917

Graphite

VOL. XIX

AUGUST, 1917

No. 8



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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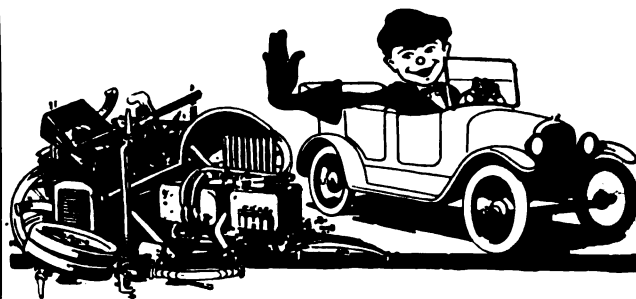
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FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.



Steer Clear of the Scrap Heap

Friction is slowly, surely sending your car to the scrap heap. In spite of lubricating oils and greases, it continually wears away the bearings. Every bearing is full of microscopic holes and pin points which will, if left alone, cause ruinous friction.

DIXON'S GRAPHITE Automobile LUBRICANTS

Dixon's selected flake graphite is the only lubricant that will fill up these holes and build up around these pin points a smooth, oily veneer that becomes finer and more smooth with use and wear. With this rare form of flake as a basis we have produced a line of graphite lubricants specially designed for every separate part of the car.

Try Dixon's Transmission and Differential Grease No. 677 in your car and see what a difference it will make in mileage and smoothness of running.



Write for Booklet No. 190-G

Joseph Dixon Crucible Co.

Jersey City, N. J.

Established 1827



Over the Andes

WE in the United States have no monopoly of the scenic beauties of the American continent, as the photograph on the cover of this month's issue will prove.

Mr. Alfredo J. Eichler, representative in South America of the Joseph Dixon Crucible Company, has sent us some very beautiful photographs, and writes as follows:

"I have just returned from a quick trip to Santiago and Valparaiso, Chile. I made the trip both ways over the Andes, and have seen as beautiful mountain scenery as I have ever had the pleasure of seeing anywhere. Next to the Himalayas, the Andes are the earth's highest mountain range.

"There are two regular routes from Buenos Aires to Chile, one by rail over the Andes and the other by steamer via the Straits of Magellan. Both trips are very interesting, but I believe that for those Americans who can make only one of them the trip over the Andes would probably prove the more interesting.

"In making the trip to Chile via the Andes, the regular train leaves Buenos Aires at 8.30 A.M. Sunday morning. Sunday and all of Sunday night is spent passing over the fertile Argentine plains. At 6 A.M. Monday morning the train reaches Mendoza, which city is at the foot of the Andes and is the point where most of the Argentine wine is produced. It produces approximately 2,500,000 barrels of wine each year. The lovely vineyards ascend the foot-hills of the Andes that divide Chile from Argentine.

"At Mendoza we changed to a narrow gauge train and spent all day Monday going over mountains and through tunnels, arriving late at night at Santiago, Chile.

"It is impossible for me to describe the beauties of this mountain trip from Mendoza to Santiago. During the trip we passed the loftiest mountain in the Western Hemisphere, and one of the highest mountains in the world, Aconcagua, rising to a height of over 23,300 feet. The train reaches an altitude of 10,400 feet above the level of the sea, and the longest tunnel which it passes through is 90 yards short of two miles long. Of course, the higher mountains are snow-capped during the entire year.

"During the trip I noticed that some of the steel bridges on this Trans-Andine Railroad looked exceptionally well painted and in very good condition. It seemed to me that only Dixon's Silica-Graphite Paint could look so well, and upon my return here at Buenos Aires I looked over our records and found that this railroad was using Dixon's Silica-Graphite Paint.

"It was interesting to me to learn that the engineers in charge of this railroad, which requires real ability to keep in good operating order, should be of the same opinion as other leading engineers in all parts of the world in regard to the use of Dixon's Silica-Graphite Paint for bridges and other metal work, on which they could afford to use only the very best protective paint possible to secure.

"Yesterday I received some photographs of some bridges and buildings painted with Dixon's Paint in India. One of the bridges in India on which it is used has 69 spans and is one mile in length. In India the paint must withstand the tropical heat alternating with torrential rains during the rainy season.

"In the Andes Mountains bridges protected with Dixon's Silica-Graphite Paint are covered with snow during quite a number of months of the year. I believe we can justly call Dixon's Paint the STANDARD UNIVERSAL PROTECTIVE PAINT, and it certainly has that reputation and record in South America."

Dixon's! "That's All!"

THE following letter comes from one of the leading firms in the "frozen" fish cold storage business:

"The writer has been familiar with Dixon's Graphite Products for the past twenty-five years, and always has had the greatest confidence in their reliability.

"Dixon's Silica-Graphite Paint was used on our two 80 ft. steel smokestacks ever since they were put up six years ago. *They are exposed to salt water*, as they are located on the docks, and the paint has *stood up very satisfactorily*.

"We have used Dixon's flake graphite also, especially No. 635, which we are using for cylinder lubrication. We find it very efficient and it has cut our cost for cylinder oil supply considerably. In fact, we find all your goods O. K."—(Sd.) *George B. Williams, Ch. Engineer, Central Wharf Cold Storage Company, Portland, Maine.*

It is very difficult to get a protective paint to stand up against conditions of dampness and salt water. This is one of many similar testimonials proving that Dixon's Silica-Graphite Paint more than fulfils expectations.

Moreover, Dixon's Lubricants give equally remarkable service and satisfaction.

The Dixon Company will be glad to correspond with chief engineers, superintendents, etc., of manufacturing plants regarding paint and other graphite products.



William O'Connell

WILLIAM O'CONNELL, Superintendent of the American Graphite Company's mines since February 1st, 1898, died on June 24th, in his 63d year. The American Graphite Company is owned by the Joseph Dixon Crucible Company, and the responsibility for the successful and economical management of the graphite mines, the milling processes, and all the attendant details, was borne upon the shoulders of Mr. O'Connell for nineteen years.

Mr. O'Connell was a quiet, unassuming, practical business man. He used no flowery language; he was not what one might call an eloquent speaker, but he knew his business and was very direct in his style of speech, his manner of delivery and his way of doing work.

Mr. O'Connell was known by almost every man from Lake George to the St. Lawrence River. He had thousands of friends, due to his great heart and kindly disposition.

There are many men who make enemies when they speak the unvarnished truth, and Mr. O'Connell was keen to speak the unvarnished truth, however bitter or unpleasant it may have been; but he lost no friends through that habit, as behind his sometimes bitter and forceful words there were that justice and uprightness that impressed the man whom he was addressing.

He was a man of sterling qualities, and the world would be better if he were duplicated by the thousand. He was known for his originality of mind, his ability in getting work from his men, and his love of plain speech; for, as we have already indicated, he called a spade a spade. He was a combination of modesty and independence of mind.

Mr. O'Connell had been in ill health for nearly a year and his steadily failing health was such that he approved and thanked the Dixon Company when the company retired him, as it did a short time ago, on full pay for life. At that time it was thought that he might eventually recover and live to enjoy the fruits of his long and faithful years of service.

Dixon Sales Conference

DURING the week of June 25th all of the Dixon District Representatives visited the General Offices for a sales conference with the management and sales departments.

Monday was devoted to meeting old friends. Tuesday the regular meetings began and extended until Saturday.

Tuesday evening all of the District Representatives and a number of the men at the General Offices with whom they have dealings were entertained at a shore dinner at Sheepshead Bay. Later in the evening they all were taken over to Coney Island and shown the sights of Luna Park.



**Logan Trust Company's Building,
Philadelphia, Pa.**

Architects,
Engineers,
Contractors, } Attention, Please!

THE above illustration shows the Logan Trust Company's building, recently erected. Messrs. Bissell & Sinkler were the architects, the George A. Fuller Company the general contractors, and the American Bridge Company the fabricators of the 300 tons of steel involved.

Dixon's Silica-Graphite Paint was used both as shop and field coats.

When leading firms like those mentioned select and use Dixon's Paint for the protection of the steel skeleton of buildings "there is a reason." The reason is that Dixon's is said by users to be the best and most widely known protective paint. There is a guarantee in its use as it is made in ONE GRADE only—the BEST. The vehicle used is pure, boiled linseed oil.

Employees Aid Red Cross

THE management offered their employees an opportunity to aid the Red Cross by giving Saturday afternoon, June 23d, to extra work and paying them for this, with the understanding that half of the pay be contributed to the Red Cross Fund.

The employees quickly grasped this opportunity to contribute their share to this worthy cause. Practically the entire office and factory force were seen at their posts in the afternoon. Instead of giving up half of the extra pay, nearly all contributed the full amount and many made cash contributions in addition.

Non-Crucible Furnaces

By D. A. Johnson

TWELVE to fifteen years ago non-crucible furnaces were at the height of their popularity. A few years later they disappeared almost as rapidly as they had come. The present high cost of crucibles and of coke has resulted in a large number of new installations and will probably result in still more unless the prices of crucibles and fuel decline.

The city of Detroit is perhaps the best illustration showing the rise and fall of the non-crucible furnace. First some of the progressive metal manufacturers tried out the Charlier, which was a barrel-shaped affair lined with fire brick, with a hole in one side through which the metal was introduced and poured. Some very flattering reports were made and it was not long until other large interests in Detroit installed furnaces of the same type, notably Rockwell, Schwartz and Anderson. In a year or two there was hardly a large melter in Detroit who had not given up crucible practice entirely except such few as he used as pouring ladles. The one rolling mill which was in Detroit at that time was an exception to this general rush for non-crucible furnaces.

There are two points in favor of the non-crucible furnace: one is that large quantities of metal can be melted quickly and with less fuel and labor cost. The other is that they take up less room in the foundries. This is about all that can be said in their favor.

The great disadvantage is in the shrinkage of the metal when melted in a direct flame, and a metal containing a large percentage of zinc cannot be economically melted in a furnace of this type. Pure copper such as is used in the manufacture of twyers and "bosh" plates and perhaps certain kinds of electrical work, has been satisfactorily melted in the reverberatory furnace. Red brass is much harder to control and yellow brass is practically out of the question on account of the very high loss of zinc in the melting.

It is also claimed that castings from a reverberatory furnace are much more porous than those from crucibles and will not stand up under high pressure. The average jobbing brass foundry melts three or four different kinds of metal every day, and this would bar the use of a non-crucible furnace, as the founder would have to have three or four of them, each one running with a very small charge of metal, whereas in a crucible furnace he could run certain fires on yellow brass, others on red and others on phosphor-bronze or other kinds of metal.

The non-crucible furnace is very noisy and this has been objected to in a good many shops. A higher degree of intelligence is required to operate these furnaces even under

the best of conditions than is the case with crucible pit furnaces.

The great objection, however, is that which was first stated, namely, the loss of metal in shrinkage. This dollar and cent proposition was the cause of the disappearance of the non-crucible furnace. It is a delicate matter to figure metal shrinkages properly. If, for instance, you should take a freshly lined furnace, introduce so many pounds of copper, so many of tin, so many of zinc, melt this metal and pour it off into the flasks, you could weigh the rough castings when they came from the sand and give an approximate idea of the shrinkage on that particular heat. You could not tell how much of the metal stayed in the cracks between the bricks in the furnace. You could not determine how much was spilled on the way to the flasks. In one instance, where a test heat was being taken off by the furnace manufacturer, 200 pounds of metal were charged and 250 pounds were poured, the reason being that the previous heat had been poured at a comparatively low temperature and a great deal of metal remained in the furnace. The test heat was poured very hot, which loosened the metal that was sticking to the walls of the furnace.

The rough castings would have considerable sand adhering to them, especially if it was core work; but what about the second heat when you took the gates and risers off these castings and put them back into the furnace? How would you know how much zinc you were putting back or how much tin or how much copper? And the same would be true of scrap metal of any kind. You could tell only the number of pounds of scrap you put in, and without an analysis would not know what that scrap contained.

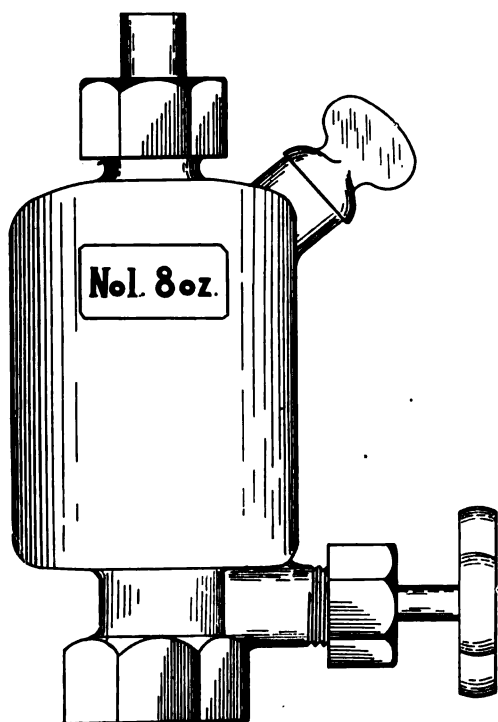
Zinc volatilizes much more readily under the direct flame than it does in a crucible, and when these zinc fumes go off into the air, they cannot be recovered again. In one plant this loss of metal was found to be \$10,000 in one year. A good illustration regarding the loss of zinc is obtained by watching the dip brazing process. Here the operator has a trough-shaped crucible and the molten spelter is in plain view of the workman. He is equipped with regulating drafts on his furnace and is constantly changing them to keep the fire at the right temperature. A few degrees too cold and the metal does not have sufficient fluidity. A few degrees too hot and blue flames will begin to appear on the surface of the molten metal, showing the volatilization of the zinc; and if there are workmen on the floors above it will be only a short time until all are made ill by these gases and have to go home.

If it is so delicate a problem in an open furnace of this kind to regulate the temperature, how much more difficult is it in a reverberatory furnace, where you can see nothing. In a foundry using non-crucible furnaces for any length of time, there will be plainly seen on the rafters and beams overhead quite a deposit of white zinc dross, all of which means money going up in the air.

My judgment is that after this war is over and the prices of commodities generally decline, these non-crucible furnaces will gradually disappear again the same as they did twelve or fifteen years ago.

There is another factor, however, that may appear among the large plants where the tonnage is considerable, and that is the electric furnace. They are being successfully operated in the manufacture of steel castings all over the country and several have been installed lately for the melting of brass.

It is too early yet to get any accurate data as to their cost and satisfactoriness of operation. It goes without saying that the little fellow will never be able to handle a proposition of this kind.



What the McCoy Lubricators have Accomplished

NOWHERE is higher efficiency demanded than in railroad operation. The development of lubricators for railroad locomotives since the time when all lubrication was done by hand, has been marked, but until recently has hardly kept pace with the improvement in design and the increased power of locomotives. Among the best devices for lubricating superheated and other locomotives is the McCoy Graphite Lubricator.

A fault common to all oil lubricators was that they would not withstand the heat of superheated cylinders, but this defect has been overcome by the McCoy Graphite Lubricator. Tests have demonstrated ample and positive results.

- (1) They perfectly lubricate the valves, cylinders and pistons of the locomotive;
- (2) They prevent scoring and consequent blowing of steam and loss of power, and indefinitely preserve the life of the cylinder without repacking;
- (3) Make engine failures, caused by improper lubrication of valves and cylinders, impossible;
- (4) Eliminate the use of hand oilers and swab cups;
- (5) Produce a noticeable increase of speed and power;
- (6) Effect a marked saving in fuel consumption, and upwards of 50% of valve oil;
- (7) Are simple in construction, automatic in action and require no attention;
- (8) Interchangeable with any steam chest choke plug fitting and are easily installed with negligible expense;
- (9) They positively remove the necessity of enginemen going out on the running board while drifting in attempting to apply lubricants through the relief valve.
- (10) Prevent loss of schedule time. Should, for any reason, the gravity feed lubricator fail to work, the McCoy cup supplies sufficient lubrication to carry the locomotive to destination without delay or evil results.

The cups are handled entirely by the roundhouse oiler who fills and opens them, and they are not touched again until the locomotive returns to the roundhouse or makes a number of miles sufficient to use up the contents of the cup.

The oil from the gravity feed lubricator passes through the stem of the McCoy cup, in the top of which is a choke plug (all other choke plugs are eliminated), and on the bottom an automatic valve which is operated by the steam, or by air when the engine is drifting. The cups are filled with a mixture of common engine oil and Dixon's Fine Flake Graphite No. 2.

These cups are giving excellent satisfaction on locomotives, both superheaters and saturated, in various parts of the country. For further information write to The Elijah McCoy Manufacturing Company, Detroit, Mich.

Advertising is not a Waste

Figures given out by the Association of National Advertisers show Low Percentages of Advertising Costs when compared with Gross Receipts

THE business man who has fallen asleep by the wayside says advertising is a huge economic waste; that millions of dollars are spent and wasted in artificial attempts to stimulate selling, to the ultimate injury of both buyer and seller.

To the man on the fence this argument may appear logical, but it does not square with the facts. Mr. Alan C. Reiley, President of the Association of National Advertisers, wonders if the average man ever stops to realize that those millions spent in advertising sell hundreds of millions' worth of goods—goods that could never be sold so cheaply in any other way.

Millions spent for advertising sounds big, but hundreds of millions' worth of goods sold by advertising makes the actual amount spent for advertising look small.

The Association of National Advertisers has collected some valuable facts and figures to show the ratio of advertising to sales.

The advertising of one of the leading paint manufacturers of the country averages $3\frac{1}{3}$ per cent. of their total sales. In other words, for every dollar's worth of paint they sell, they spend $3\frac{1}{3}$ cents in advertising. Another big paint and varnish manufacturer spends from $3\frac{1}{2}$ to $4\frac{1}{2}$ per cent. of his total sales. One of the biggest clothing manufacturers in the country spends $1\frac{1}{2}$ per cent.; another 2 per cent. An equally prominent shoe manufacturer spends $1\frac{1}{2}$ per cent.

One of the best-known candy makers in the country, and one of the biggest advertisers, spends 5 per cent.

One of the most famous automobile builders in the country spends 2 per cent.; another equally well known spends 3 per cent.

Among the leading tire manufacturers one spends 2 per cent.; another spends the same amount.

These figures are authentic, and when you consider the enormous volume of the automobile and tire business you will see that the small percentages are ample to provide for the wonderful publicity.

When we come to the big department stores and you consider the fact that they are fairly eating up the newspapers with their big spreads and you expect to find big percentage figures, you will be agreeably disappointed. The average department store's advertising does not cost more than 3 per cent. of its total business.

The great majority of all nationally advertised articles—

articles which are familiarly known in every home in the country, which are famous for their quality as well as their immense distribution—belong to the 5 per cent. or under class.

All the above statements, coming as they do from the President of the Association of National Advertisers, should be carefully considered, as they are authoritative.

It is a Good Indication

WHEN Greenabaum Bros., Inc., Seaford, Del., tell us that Dixon's Silica-Graphite Paint is the best paint they have ever used on their buildings, smokestacks, etc., and for economy as well as durability has decided advantages whether on metal or woodwork,

WHEN the Ozark, Ala., Water and Light Department tell us that Dixon's Silica-Graphite Paint has given satisfactory service for nine years without the necessity of repainting their standpipe,

WHEN the Rio de Janeiro Tramway, Light & Power Company, Ltd., Rio de Janeiro, S. A., advise us that Dixon's Silica-Graphite Paint has protected their electric light and gas poles on the water front from dampness, rust, salt spray and other deteriorating agents,

WHEN the Para Construction Company, Para, Brazil, tell us that Dixon's Silica-Graphite Paint has given a service of 20 years on galvanized iron sheds without repainting,

WHEN C. V. Lewis, Amityville, Pa., tells us he has been a user of Dixon's Silica-Graphite Paint for thirty years for roofs and has never found its equal,

WHEN the Indianapolis & Cincinnati Traction Co., Rushville, Ind., tell us that Dixon's Silica-Graphite Paint has given six years' service on their smokestack and they are glad to recommend it,

WHEN the St. Marys Wheel & Spoke Co., St. Marys, Ohio, advise us that they have used Dixon's Silica-Graphite Paint for fifteen years, and that it has given a service of ten years on iron work,

WHEN Charles H. Allen, Floral Park, N. Y., tells us that Dixon's Silica-Graphite Paint has given a service of sixteen years on his hot water pipes, and is the most serviceable paint for the purpose,

WHEN D. L. Fagnan, Erecting Engineer, De La Vergne Machine Co., New York City, says he has recommended Dixon's Silica-Graphite Paint for nineteen years, and that for ammonia condensers, piping on roofs, where sea water is used for condensing, it is without an equal,

WHEN the Globe Elevator Co., Superior, Wis., and Minneapolis, Minn., tell us that Dixon's Silica-Graphite Paint has given a service of over thirteen years on their grain elevators without repainting,

WHEN the Calumet Elevator Co., South Chicago, Ill., state that Dixon's Silica-Graphite Paint has given a service of over eight years on their grain elevators,

WHEN the Nassau County Water Company, Glen Cove, N. Y., write that Dixon's Silica-Graphite Paint has given a service of eleven years on the interior and exterior of their standpipe,

WHEN Mr. C. W. Moore, Oakfield, N. Y., tells us that Dixon's Silica-Graphite Paint has given a service of over twelve years without cracking, peeling, etc., on wood work of his residence, and that the paint is still in good condition,

WHEN the Remington Power & Paper Co., Norfolk, N. Y., write that Dixon's Silica-Graphite Paint has given ten years' continual service on their steel work flume.

(To be continued.)

The Cincinnati Race a "See-Saw"

THE 250-mile International Sweepstakes at Cincinnati was "some see-saw affair." First De Palma led the field. Then Buzane, who drove the Detroit Special in place of Eddie Rickenbacher, nosed into first place for a time. Then De Palma went to the fore again only to give way to Louis Chevrolet in a Frontenac. Louis held the lead from the eighteenth lap to the twenty-sixth, when De Palma leaped ahead. In lap twenty-nine Chevrolet shot ahead and in lap thirty-three Gaston Chevrolet driving another Frontenac passed De Palma, only to be displaced by his brother Louis, who breezed in a winner, maintaining an average speed of 102 miles per hour. Brother Gaston looked like a winner until tire trouble forced him into the pits and the victory thus was Brother Louis', who did not have to make a single stop at the pits. One factor that helped to make the non-stop performance possible was the fact that Louis Chevrolet's car was kept free from Friction's "campaign of frightfulness" by the use of Dixon's Graphite Automobile Lubricants.

Metal Shoes

WE read in the *Cement World* of the advantages of metal shoes for protecting the feet of those working in mud, water, sand, cement, concrete, crushed rock and injurious objects, and keeping them warm and dry. Of all metals, aluminum is most perfectly adapted for use in the construction of work shoes. It is light, durable, rust-proof, water-proof, and will stand a surprising amount of hard usage without injury. Aluminum work shoes have no unnecessary weight to tire the feet and legs. Aluminum work shoes must be shaped exactly right in order to be comfortable. The National Aluminum Shoe Company of Racine, Wis., has devoted much study and experiment, we are told, to the designing of work shoes which are perfectly shaped for the feet so as to afford the necessary freedom of movement with the desired support and protection.

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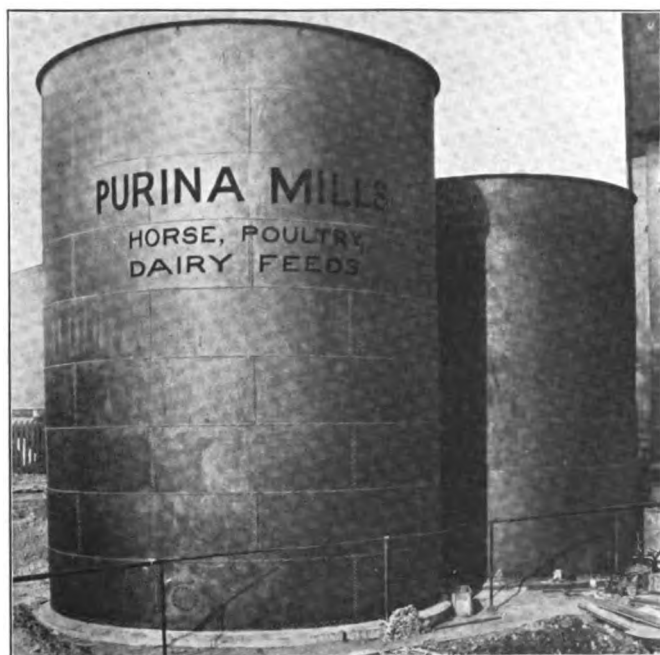
SOME would-be joker sent a postal card to our Paint Department inquiring if Dixon's Silica-Graphite Paint was a suitable paint for the inside of a chicken coop to keep the hens from picking the grain out of the wood. The head of the Lubricating Department was so anxious to find out if such an inquiry had been received that suspicion points that way.

Calorie

IN these days when the food question is such a serious and interesting matter, we hear a great deal about calories, but few of us have known the meaning of the word "calorie." We have been told there were so many calories in pork, so many in beans, so many in eggs, so many in fish, etc., etc. We have had the idea that there was a something to be found in all foods, and that that something was called a calorie, but there our comprehension of what a calorie was made of stopped.

We are now told that a calorie is the amount of heat required to raise one pound of water through four degrees Fahrenheit. A man doing moderately hard work requires 3400 calories per diem to keep him going.

We are not sure that we know so very much more about calorie than we did before, but we can make a closer guess.



Molasses Tanks, Ralston Purina Company

WE illustrate two molasses tanks owned by the Ralston Purina Company of St. Louis, Mo.

These tanks are protected with Dixon's Silica-Graphite Paint.

It may be of interest to readers of GRAPHITE to know that the Ralston Purina Company use large quantities of molasses in making horse, dairy, fattening and pig feeds. With five mills strategically located and a sixth huge mill under construction, it is possible for the Ralston Purina Company to supply scientifically balanced rations at the lowest possible freight rate to nearly every town and hamlet east of the Rocky Mountains. The Ralston Purina Company are pioneers in every branch of scientific feeding.

Brewers use Dixon's Silica-Graphite Paint

Successful Tests

THE Wm. J. Lemp Brewing Company of St. Louis, one of the largest breweries in the world, writes us as follows:

The following is a copy of Mr. Barthelmass' report on Dixon's Silica-Graphite Paint:

On July 26, 1912, a panel of steel and one of galvanized iron were given a first coat of Dixon's Silica-Graphite Paint as taken from can. Five days were allowed for this paint to harden. Then the lower part of this panel was given a second coat.

The steel plate was placed on sample frame in No. 11 cellar and the galvanized iron panel on the sample frame on paint shop roof.

On April 25th, 1917, after five years' service, these samples were carefully inspected and I found that the steel plate on frame in No. 11 cellar was in a very good condition, there being no signs of rust forming, and the paint still being in very good condition.

Considering the length of test and the long exposure on roof, the paint on the galvanized iron plate is also in very good condition.—*Wm. J. Lemp Brewing Co., Architectural Department, (Sd.) Jno. W. Heddell.*

Dixon's Silica-Graphite Paint is the most economical protective paint *per year of service*, and is well suited for brewery use on tanks, ammonia pipes, smokestacks, boiler fronts, condensers, in the engine room, and on all metal work subject to heat, dampness, abrasion, acid and gas attack.

A test and a recommendation like the above should be convincing to brewery concerns. The air in cities where breweries are located is sometimes heavy with smoke and acids which are washed on roofs and other places by the rain. It will be seen that Dixon's Silica-Graphite Paint has stood up excellently under these conditions.

Users should be careful to follow directions on the Dixon can, *re* application of protective paint.

The Letter "J" is a Lucky Letter

A CORRESPONDENT, who evidently likes to dig into occult and mysterious things, writes us calling our attention to the initials of Vice-President Schermerhorn. Our correspondent adds: "Please call Mr. Schermerhorn's attention to this as I think it interesting. Beginning with our Presidents, I find the letter 'J' in the names of eight; the only President of the Confederacy also began his name with the letter 'J.' In the list of the Vice-Presidents I find it six times, divided equally between the Christian and the surname. Among the names of the Presidents *pro tem.* of the Senate it occurs twenty-two times, and among the Speakers of the House fourteen times. Thirteen of the Secretaries of State commenced their first names with 'J,' and one used it as the initial of his surname. The Secretary of President Wilson begins his name with 'J.' In the realm of justice the record is equally if not more startling: twenty-one out of a total of fifty-five chief justices and justices begin either their first or last name with the letter 'J.' Besides the above, Mr. Schermerhorn will find the letter 'J' in the names of nearly all the millionaires of the country, viz.: John D. Rockefeller, J. J. Astor, Jay Gould, J. M. Sears, J. P. Morgan, J. B. Haggin, J. W. Garret, John Wanamaker, J. G. Fair, John W. Mackay, J. G. Flood, John Arbuckle, J. B. Stetson, John Claflin, Joseph Pulitzer, and dozens of others. Good luck to Vice-President J. H. Schermerhorn!"

Our correspondent might have gone still further and mentioned among the fortunate heavyweights J. L. Sullivan, J. Corbett, Jim Jeffries, Jack Johnson, Jess Willard.

He might also have mentioned that jovial Rotarian, Jack Lewis, the representative of the Dixon Company at Atlanta, Ga., and, not least physically or otherwise, Jack Ready, whose location we need not give, for he is equally at home anywhere in the United States. He is, however, known as an incorrigible bachelor—an incorrigible bachelor with money in twelve banks. He believes in marriage, but not so far as he is concerned. After a hard day in the office, where most of the time is spent in telling his friends why he cannot fill their orders, he hies himself to a home blessed by luxury, calm, and peace. There is no mother-in-law there to eye him balefully. There is no indignant neighbor waiting in the hall to tell him that his heir-apparent has broken another pane of glass or cut another cat's tail or pushed another schoolmate down a sewer. His Havana cigars do not lie crushed and pathetic upon the library floor—mute victims of some childish game. He may smoke in bed, in his parlor, or in the dining-room and no wifely protest will grate harshly upon his nerves. He may hang his raiment on the gas-jet, with the hip pockets gorged with currency—and it will be there, to the last cent, the next morning.



Display window, Virginia Stationery Co.

A Girl's Complete Education

To be gentle.
 To value time.
 To dress neatly.
 To keep a secret.
 To learn sewing.
 To be charitable.
 To be self-reliant.
 To avoid idleness.
 To study hygiene.
 To darn stockings.
 To respect old age.
 To learn economy.
 To know how to mend.
 To know how to cook.
 To make good bread.
 To better the world.
 To keep a house tidy.
 To be above gossiping.
 To control her temper.
 To know how to buy.
 To make a home happy.
 To take care of the sick.
 To dress economically.
 To take care of the baby.
 To sweep down cobwebs.
 To know how to study.
 To make a home attractive.
 To be interested in athletics.
 To marry a man for his worth.
 To know the value of fresh air.
 To understand the rules of diet.
 To read the very best of books.
 To be a helpmate to her husband.
 To take plenty of active exercise.
 To keep clear of trashy literature.
 To understand character building.
 To take an interest in the schools.
 To understand emergency nursing.
 To be light hearted and fleet footed.
 To be womanly under all circumstances.

—N. C. R. News.



Arthur K. Ingraham

July 29, 1837

July 14, 1917

MR. INGRAHAM took a position with the Dixon Company September 1, 1878, and continued in their service until his death, although for some little time he had not been an active worker.

His first trip for this Company was from New York to Bangor, Maine, and later his territory covered the West, South and Canada, finally associating with the Boston Branch. Here he confined himself to the New England States.

His last visit to the Home Office in Jersey City was on February 9, 1916, when he received a most hearty welcome. His earlier experiences as a salesman provided him with an inexhaustible supply of interesting personal incidents which attracted to him at all times ready listeners.

Prior to his entering the employ of this Company, Mr. Ingraham was manager and supervisor of the American Thresherman System, and as an expert telegrapher he was one of the first, if not the first operator to transmit messages over the foreign Atlantic cable. The work proving too exhausting, he resigned to become a traveling salesman. Despite some earlier discomforts and hardships, he was always an enthusiast; his kindly disposition, lovable nature and fine appearance—always distinctively well clothed, to the button-hole flower—soon won him customers more than he could eventually take care of.

On the retirement of "Uncle George" Olney in 1914, Mr. Ingraham was invested with the title of "Dean of Traveling Men," with forty-four years of service to his credit.

The Ingrahams celebrated their golden wedding anniversary November 17, 1908, at which time, in a write-up of the affair, Mr. Ingraham was referred to as a model husband and a model salesman.

A fitting tribute to the man who, leaving us, leaves only pleasant memories. There are many of the Dixon force who have been his associates for years. He leaves us in honor, love, and respect.

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SINCE going to press we have received notice of the death, on Sunday, July 15, 1917, of "Uncle George" Olney, from whom Mr. Ingraham inherited the title of Dean.

Advertising Men

WE adapt the following from the fine patriotic address of United States Senator Hiram W. Johnson on the opening of the Convention of Advertising Men at St. Louis.

Advertising men are the pioneers in the development of business. They are in the vanguard of progress, discovering new fields of endeavor and wider possibilities of development. They are really the men of business, unafraid, who, with unerring instinct and intuitive initiative, explore hitherto unknown paths, bringing legitimate business finally into its fullness and fruition.

Industry, commerce and business are the life of a nation and make the nation prosperous and powerful. Advertising men make commerce and business prosperous and powerful. Advertising men have become an integral and important part of our business world, and, indeed, of our social economy. Advertising supplies the red corpuscles to the arteries of trade.

F. O. B. Terms Defined

ASK any business man who makes shipments what F.O.B. means, and he will very quickly tell you it means "free on board," and yet, according to the bulletin of the American Manufacturers' Export Association, there are eternal arguments between foreign buyers and American sellers as to the exact meaning of "Free on Board." Such arguments can be avoided by one thing: a definite previous agreement as to what the term includes,—or else the addition of the word "cars" or "ship" to the term itself. For the information of firms new to export and import trade, the authoritative ruling is that F.O.B. terms are held to be for the benefit of the *buyer*.

"Competent authority holds that the term 'F.O.B. New York,' when applied to an export shipment, means 'F.O.B. Steamer,' so that the obligation and responsibility rests with the shipper until the goods are actually in the hold of the vessel, and consequently incidental expenses, such as cartage from cars to vessel, consular fees, and shipping charges, are for account of the shipper.

"It has been held that goods sold on 'F.O.B.' terms must be delivered free on board some means of conveyance which will take them *to the buyer*. It is no advantage to the buyer that his goods are to be delivered 'on board,'

unless they are on board something that is going to carry the shipment to him or towards him. On an *import* shipment, for instance, 'F.O.B. New York' means 'F.O.B. Cars,' with cartage and other incidental costs of transfer from ship to cars for account of the foreign seller.

"The term 'F.O.B.' is held to be for the benefit of the purchaser. In other words, the shipper must assume the expenses of placing the goods at the 'F.O.B.' place named. Therefore shippers should bear in mind that a mere delivery at New York is not by any means a delivery 'F.O.B. New York.' It is technically a delivery 'F.O.B. Cars New York.'"

"Only"

WE often read of the great difference in sense that is made by the misplacing of a comma. The misplacing of the adverb "only" is a very common error. The changes in meaning shown in the following examples illustrate the necessity for care in placing the adverb:

"Only he expected his friend." (No one else expected him.)

"He only expected his friend." (He was not sure he would come.)

"He expected only his friend." (He looked for no one else.)

"He expected his only friend." (He had but one friend; "only" an adjective.)

"He expected his friend only." (No one else.)

The Price of Unpreparedness

ALVIN MACAULEY, in his address on Washington's Birthday, said that the nation in Washington's day was then, as now, totally unprepared for war. There were no trained soldiers, and few officers capable of leading even raw recruits. Universal military service was scorned then as since, as being contrary to American fondness for unrestrained, undisciplined personal liberty. We paid a heavy price for our unpreparedness, but were pulled through finally by the sheer genius and bull-dog determination of George Washington.

Our school histories do not tell us the harsher truths of our struggle for independence and right. It would be better if they did. They glorify the Paul Reverses and the "Minute-men." But they do not put before us the sordid fact that under the short-term volunteer system, in our great war for

independence, Washington never had more than 17,000 men to throw into battle against the enemy; and to secure enough officers he had to agree to pay their salaries during the period of the war and for seven years thereafter.

He himself never accepted pay, either while Commander-in-Chief or during his two terms as President. He had treacherous associates whom it was hard to distinguish from his friends, because they spoke his own language and some of them had dined at his table and fought at his side. His army was half fed, ill equipped, and undisciplined, yet had to be led against seasoned veterans, most of whom had made war a profession. He had to contend against jealousy, disloyalty and chicanery; yet he never faltered.

He became great because he showed, above all other men of his day, the brave heart to overcome obstacles and to fight through seven long years of hideously adverse conditions to Yorktown and final victory.

Artistic Taste

AN eminent official of the British Museum was upon one occasion showing a lady some of the treasures of the famous institution, when suddenly she leaned forward with an animated expression on her countenance. Previously she had not betrayed interest in her surroundings, and the official, thinking that at length something had appealed to her, said: "What is it, madam? If there is anything you would like to know, pray do not hesitate to ask." "So good of you," replied the lady gushingly; "I do wish you would tell me what brand of black lead you use on those iron ventilators that are let into the floor. We have the same sort of thing at my house, but my maids can never get them to shine half so brilliantly."

What is a Can of Salmon?

THE SUNSET, published by McLennan, McFeely & Co., Ltd., Vancouver, B. C., asks this question and adds:

"Every one knows part of the answer, but few know the whole tale. When the housewife goes to her grocer and buys a can of salmon she takes the can he offers her, or she takes the can with the prettiest label. Which ever can she takes, she will find that she has received value for her money; for a can of salmon is the equal of a pound of steak in nutritive ingredients, and it does not cost as much, in these times of meat shortage due to the war.

"But there are cans of salmon and cans of salmon, and that is why the question is asked, What is a can of salmon? The can of salmon *par excellence* is the can of sockeye salmon whose flesh is red in color and somewhat oily. Sockeye, as well as other varieties of salmon, is put up in pound and half-pound cans.

"Every canner has his own brand of labels with which he delights to decorate his cans. Labels have the advantage of insisting that the canner go behind his product."

What is said of salmon might be said of graphite. What is a can of graphite? There are cans of graphite and cans of graphite. The can of graphite *par excellence* is a can of Dixon's Flake Graphite, the flakes of which are shiny black and thinner and tougher than any flake graphite produced in any part of the world.

The Dixon Company has its own brand of labels and we delight in decorating same. Furthermore, the advantage of the Dixon label is that the Dixon Company stands behind its product, and any one who buys a can of Dixon's Flake Graphite will get an honest graphite and a graphite that is known in every part of the civilized world as the graphite *par excellence* for lubricating purposes.

GOLDEN BOUQUETS

OR WHY

DIXON'S ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"SOME time since, you mailed me samples of drawing pencils and white pencils for writing on blue prints. I wish to say that the pencils are all you claim for them, and will gladly specify this pencil when in need of drawing pencils."

"REPLYING to your letter of recent date I will state that I received the samples you sent to me and that I have found them satisfactory. I have put in a stock of your pencils in this department."

"RECEIVED your sample pencil and desire to thank you for your kindness. I've been very busy out of town and had no chance to make the test. But since then I've made a purchase of one dozen. I find the Dixon pencil a standard article that can hardly be beat, not only in drawing but any use. I desire to say that I find the Dixon pencil excellent for its regulation in lead, strength and durability, and perfect in make."

"GLAD you sent an HB—it is one I use for practically all purposes. Used to use ——. Consider yours equal and use them right along."

"IN reply to yours of the 18th inst., wish to say that we received the samples sent and find them to be very satisfactory. I consider them in a class with the ——. Our local stationer is —, and we have placed an order for one dozen of the 6H; that being the only grade that we are short on at this time. Will also get some of the other grades when we order again."

"WE have tried the pencils and find them to be a very fine drawing pencil, and when we are in the market for new stock we will surely place an order for 'ELDORADO.'"

"DIXON'S, I believe, was the first lead (graphite) pencil ever made. It is also first in quality, especially your latest creation, the 'ELDORADO.'"

"I HAVE received your circular of June 14, enclosing samples of your drawing pencils, HB, 5H and F. I thank you very much for calling my attention to the high quality of these pencils. Your advertisement is certainly good and effective. It will have the effect in this instance of making you a good individual customer. This is a good time to prefer the products of American factories."

"WE are in receipt of your sample pencils, for which we beg to thank you. These pencils are very satisfactory and when ordering pencils from our stationer will ask for your make."

"I NEVER used better pencils. I buy considerably from —, Chicago."

"THE slowness of my response is hardly in keeping with my appreciation of your courtesy. The pencils came. Two were very useful, the 3H and the white. I found them excellent for my retouching and for spotting on prints."

"PLEASE be advised that we are specifying your 'ELDORADO' pencils for our drawing-room. We have found these very satisfactory indeed, and at the present time are purchasing them from —, of Buffalo, N. Y."

"REPLYING to your favor enclosed, beg to advise that the pencils are quite the equal of the imported pencils I have previously been using, and the Pharmacy advise they will get a stock of them."

"YOURS of 6th instant to hand. The samples of your pencils sent me from your head office were received a few weeks ago and they have proved entirely satisfactory."

"I shall keep you in mind and when I need more of the pencils you shall have the order."

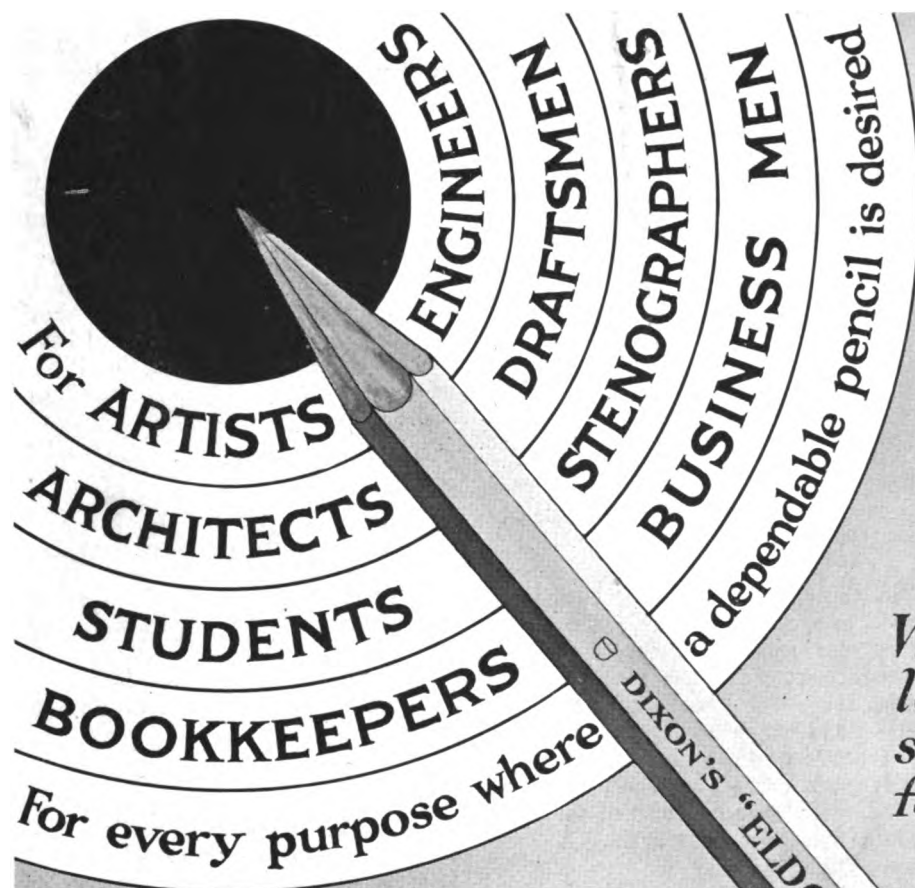
"The pencils have the best lead I believe I have ever seen, and are fine in every particular."

"REPLYING to yours of recent date, will say I received the sample pencils you were kind enough to send me and they are satisfactory, very satisfactory in every way, and will take pleasure in specifying Dixon's pencils at every future opportunity."

"THE samples you sent I have tried, and I find your 'ELDORADO' 5H equal to any imported pencil I have used, and your No. 352 white is something I have been looking for for some time and will not be without again."

"IN reply to your favor of recent date, I take pleasure in informing you that the samples of 'ELDORADO' and 'BEST WHITE' pencils which you sent me some time since were entirely satisfactory. The 'ELDORADO,' I have found, is true to grade and entirely free from grit, besides fulfilling every other requirement that goes to make a truly high-grade pencil. The 'BEST WHITE' is a boon to engineers, indeed, as it is far more handy than white ink and at the same time is lasting, making a perfect contrast to the blue print. I shall take pleasure in specifying these brands on my next order, and in fact wherever I have occasion to use pencils. My supply house is —, of Salt Lake City. Thanking you heartily for the samples and for calling attention to these high-grade pencils, I remain."

"The competition which is most insidious and dangerous is that which results from an inadequate knowledge of costs."



*Write us on your
letterhead for
samples of your
favorite degrees*

DIXON'S ELDORADO

"the master drawing pencil"

**hits the bull's eye
for every pencil need
Made in 17 degrees
SMOOTHEST, LONGEST
WEARING and MOST
UNIFORMLY GRADED**

JOSEPH DIXON CRUCIBLE COMPANY
Jersey City, N.J.
Dept. 190-J

THE DE VINNE PRESS
NEW YORK

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SEP 18 1917

Graphite

VOL. XIX

SEPTEMBER, 1917

No. 9

ONE YEAR AGO

During the past two or three years the Dixon organization has had many new responsibilities, in service-duty to the business public, involving the solution of difficult problems. These problems have been undertaken with a spirit that would be a credit to any organization.

One responsibility that seemed peculiarly ours - by reason of our position as makers of quality pencils - was the production of a Drawing Pencil which in the fullest sense would be as satisfactory as the better quality drawing pencils formerly imported. Technical men have in the main been operating under high pressure, and their need of first quality tools has been imperative.

One year ago we offered to the public Dixon's "ELDORADO" - the master drawing pencil. We did so only after securing the highest endorsement from numerous representative users of drawing pencils, based upon tests of unidentified samples submitted through third parties. Today the call for the "ELDORADO" is greatly in excess of even our own highest expectations. And we have had thousands of expressions from professional men, industrial and educational institutions to the effect that Dixon's "ELDORADO" - the master drawing pencil is fully equal (many insist it is distinctly superior) to the finest imported drawing pencils.

JOSEPH DIXON CRUCIBLE COMPANY


PRESIDENT.

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JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U.S.A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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WILLIAM G. BUMSTED	EDWARD L. YOUNG
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BOSTON OFFICE	347 John Hancock Building
ST. LOUIS OFFICE	501 Victoria Building
BALTIMORE OFFICE	616 Professional Building
BUFFALO OFFICE	409 Erie County Savings Bank Bldg.
ATLANTA OFFICE	328 Peachtree Street

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Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

SOUTH AMERICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Alfredo J. Eichler, 666 Calle Cangallo, Buenos Aires, Argentine

Alfredo J. Eichler, Calle Huerfanos 761, Santiago, Chile

CUBAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

William Croft, Room 424 Lonja del Comercio, Havana

PORTO RICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

H. Glyde Gregory, Royal Bank Building, San Juan

LATIN-AMERICAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

National Paper and Type Company, 31-35 Burling Slip, N. Y.
With Branch Agencies in Mexico, Cuba, Peru, Argentine,
Uruguay, Venezuela, Porto Rico and Colombia

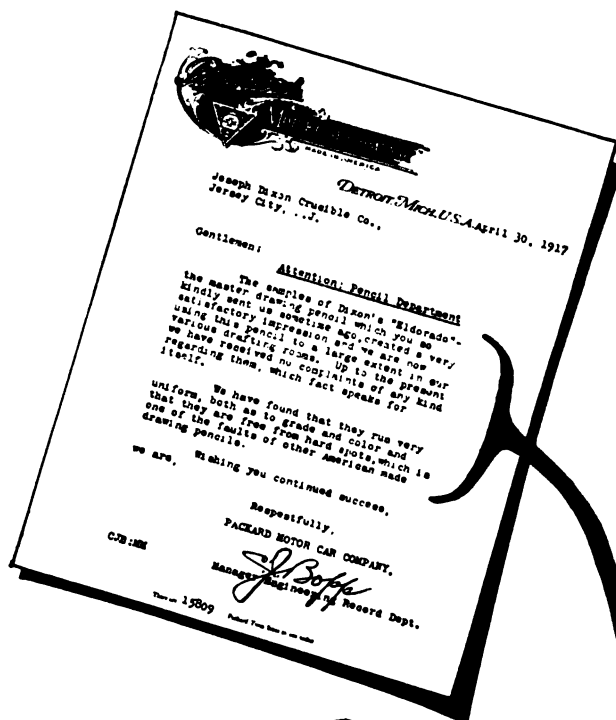
CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

A. R. MacDougall & Co., Ltd., 266-8 King St., West,
Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.



What Packard thinks of

DIXON'S ELDORADO

"the master drawing pencil"

"The samples of Eldorado created a very satisfactory impression."

"We are now using this pencil in our drafting rooms."

"We have received no complaints of any kind regarding them."

"They run very uniform both as to grade and color."

"They are free from hard spots, which is one of the faults of other American-made drawing pencils."

When a concern like the Packard Motor Company, whose drafting work is both intricate and exacting, says such things about a pencil, isn't it proof of unusual quality?

But don't take Packard's word for it. Write us on your letter head for full-length samples of your favorite degrees. Put them through every pencil test. If they don't fill your needs better than any other pencil—no harm done. If they do—you can get the Eldorado through your regular dealer.

JOSEPH DIXON CRUCIBLE COMPANY

Dept. 190-J, Jersey City, N. J.

DIXON'S BEST WHITE N°352

writes white on blueprints

DIXON'S "ELDORADO" - the master drawing pencil - HB



Vol. XIX

SEPTEMBER, 1917

No. 9

To Our Pencil Salesmen

WE have complimented each other a good deal in relation to the marketing of Dixon's "ELDORADO"—the master drawing pencil.

You have told us many times—

about the "ten-strike" we made in producing a pencil of the "ELDORADO" quality;

about the congratulations from the Trade upon our fine "ELDORADO" packing;

and about the effectiveness of our advertising, circularizing and sampling in bringing to the attention of consumers the merits of the "ELDORADO" and causing them to specify it on their orders.

We have, on the other hand, expressed our appreciation of the fine business in "ELDORADO" pencils you have been sending us.

May we, however, urge you to even greater achievements? Among the thousands of expressions we are receiving from consumers, praising "the master drawing pencil," there are still too many letters which state that the "ELDORADO" is not carried in stock by the local dealers, and that they have had to accept less satisfactory substitutes. Don't you agree that we owe it as a duty to the consumers to get the widest possible distribution of these pencils among the Trade with the least possible delay?

Putting it another way, it is hardly fair in this hot weather to give a man a teaspoonful of ice cream unless you make it practicable for him to get at least a 10-cent plate.

—Pencil Department.

"The Official Office Pencil"

THE sample pencils sent us have given us more satisfaction than any lot of pencils that have been used. We have since purchased a supply of the 'ELDORADO,' which seems to have become the official office pencil."

The Watch as a Compass

A GOOD many know, and a good many do not know, that the ordinary watch can be very successfully used as a compass on any day when the sun shines.

All that is necessary is to point the hour hand directly at the sun, and half the distance on the face between that hand and the figure 12, counting backward, will point nearly due south. The reason why is as follows:

The sun generally does not rise exactly in the east nor set exactly in the west, nor is it exactly on the meridian at noon, except twice a year, at the equinoxes. But for the purpose of a guide, the above rule will give a sufficiently close indication of north and south, and when those points are determined or either one of them, the other points are easily obtained.

Let us test it. Suppose that the sun rises in the east, at 6 o'clock; lay the watch on a table at 6 o'clock in the morning, the sun then rising, with the hour hand pointing to the sun, and to the figure 6. It is evident that the east and west line will pass through the figures 6 and 12, while the south and north line will pass through the figures 9 and 3, the figure 9 being at the south end. Leave the watch lying in the same position until 10 A.M. The distance on the rim of the dial from figures 6 to 9 is the quadrant of a circle, or 90 degrees. The sun travels in its apparent orbit 15 degrees an hour, so that at 10 o'clock it will have traveled 60 degrees from sunrise, and will stand opposite the figure 8 on the dial, or two-thirds of the quadrant. Now, if the watch is moved around so that 10 takes the place of 8, the south and north lines will pass through 11 and 5 instead of 9 and 3, the figure 5 being half way between 10 and 12, counted the longest way, and marking the north, not the south point. But suppose the watch had remained undisturbed until 4 P.M., that is, ten hours from sunrise. The sun would have traveled ten times 15 degrees, and the circumferential distance between the figures on the dial being 30 degrees, it would have moved around to the figure 11, or five spaces from 6. Now, move the watch around until 4 takes the place of 11, and we have 2 and 8 on the south and north line, 8 being half way between 12 and 4, counted backward, and marking the north point of the compass. Of course, the half-way point between 12 and 4, counted the other way, marks the south point. This explanation can readily be understood by drawing a circle on paper and dividing into 12 spaces marked as the dial of a watch.

The above is to be credited to an old clipping from *Forest and Stream*.



Mill Settlement, Judson Cotton Mills, Greenville, South Carolina

THE above illustration shows the mill settlement of the Judson Cotton Mills, Greenville, S. C.

The roofs are covered with metal shingles. These and the tank and trestle, the boiler fronts in the isolated plant, and all metal surfaces are protected with Dixon's Silica-Graphite Paint.

When industrial concerns like the

Judson Cotton Mills,
Coosa Mfg. Co., Piedmont, Ala.,
Consumers Ice & Cold Storage Co., Key West, Fla.,
Erwin Cotton Mills, Durham, N. C.,
Peoples Cotton Oil Co., Selma, Ala.,
Buckeye Cotton Oil Co., Birmingham, Ala.,
Rutledge Oil Co., Rutledge, Ga.,
Republic Cotton Mills, Great Falls, S. C.,
Deep River Mills, Randleman, N. C.,
Glencoe Mills, Burlington, N. C.,
Albany Cotton Mills, Albany, Ga.,
Lily Mills, Spray, N. C.,
Long Island Cotton Mills, Long Island, N. C.,
Pauline Mills, Kings Mountain, N. C.,
Asheville Cotton Mills, Asheville, N. C.,
Norris Cotton Mills, Catechee, S. C.,

use Dixon's Paint there's a good reason why they do so, as they are well managed concerns. Their superintendents, engineers, etc., experiment and test. They do not adopt a protective paint unless it renders best and longest service. This is what Dixon's Silica-Graphite Paint does. It is made in BEST QUALITY only, a very important guarantee these days when the temptation to use an inferior oil vehicle is a strong one because of the high cost of raw material. The Dixon Company for over fifty years has

never fallen below its high standard reached by using only the very best linseed oil.

Dixon's Paint is worth the price on an economy basis, because it LASTS LONGER and therefore costs the user the least for labor and material when you figure it out this way: divide the many years of service into the first cost for labor and material.

"King Cotton" and Dixon's Silica-Graphite Paint

IT is a well known saying in our New South that "Cotton is King." In some States "Corn is King." These are the only kinds of kings that are popular in the U. S.

The Coosa Manufacturing Company, Piedmont, Ala., is one of the "Kings" in the cotton yarn industry. The Company's president is Mr. A. G. Thatcher, their Secretary and Superintendent, Mr. Richard C. Thatcher, and their Treasurer, Mr. George P. Haslam.

What has Dixon's Silica-Graphite Paint to do with cotton? The following letter will explain:

COOSA MANUFACTURING COMPANY,
Piedmont, Ala.

IN reply to your letter, will say that we are not in a position at this time to furnish you with any photographs of roofs painted with Dixon's Paint, much as we would like to do so.

In regard to Dixon's Silica-Graphite Paint, will say that we are still getting the very best of satisfaction from the use of same, and now have about 40 metal roofs of our buildings to paint, on which we expect, as in the past, to use Dixon's Paint. We have already placed an order for two barrels of your paint and will possibly use as much as two barrels more.

Yours very truly,
(Signed)

COOSA MFG. CO.,
Geo. P. Haslam, Treas.

Dixon's Silica-Graphite Paint is widely used in the South for cotton mills and other manufacturing. It is a very suitable paint to use to protect metal against the attacks of dampness, corrosion and rust-producing agencies. It costs least *per year* of service.

Use and apply according to directions on the can. Communicate with the Dixon Company regarding your needs. Ask for interesting illustrated literature.

We would not exactly call ourselves "Kings" in the paint industry, but we are specialists.

Dixon's Silica-Graphite Paint has been made for over 50 years in FIRST QUALITY only. We use no inferior grades of oil, only the best boiled linseed oil.

Moreover, the Dixon pigment is Nature's combination of the Ticonderoga Flake Silica-Graphite and is a Dixon specialty, alone mined and milled by the Dixon Company. This is a better resisting pigment than where silica is mechanically added to the graphite.

Reminiscences of Arthur K. Ingraham

AT the time of the death of Mr. Ingraham, Saturday, July 14, 1917, GRAPHITE was on the press and was held up for an article that for lack of time was not as exhaustive as it should have been. Mr. Ingraham had such a large circle of friends that we believe they will appreciate an addition to our August article.

Aside from the distinction of living to be the Dean of the American traveling stationery salesmen, Mr. Ingraham enjoyed a career of exceptional interest. He was a man of unusually fine mind and was a most interesting and entertaining talker on a broad variety of subjects.

Mr. Ingraham, who was born in 1837 in Rensselaer, N. Y., took up telegraphy when still in his 'teens, and, as previously stated, was the man who took the first money for a trans-Atlantic cable message. When the Civil War broke out Mr. Ingraham was in charge of the Bridgeport branch of the American Printing Telegraph Co., and the government afterward took them over under a form of control. A little later he was chosen as superintendent for the wires between New York and New Haven.

In those days the men had their Home Guard too, and Mr. Ingraham was one of the leading spirits of the light artillery battery. He preferred to remain as a private in the ranks, although often urged to accept an office.

To friends who would drop in for a much-prized evening's chat with him he never tired of recounting the days of the first Atlantic cable, and how Cyrus West Field's dream of linking the continents came true. Mr. Ingraham's experiences in those days of trans-ocean communication would make a volume of interesting reading.

A few years afterward Mr. Ingraham enjoyed the distinction of being the first man to introduce the "American Graphite" lead pencil to the United States and Canada. He left the cable company in 1870, and affiliated himself with the Joseph Dixon Crucible Company, with headquarters at Jersey City, N. J. That was in a period when travel and accommodations were to be endured by the hardest, but he seemed to thrive on the life, and his sales mounted and mounted. So well did he like the "road" that he remained a salesman almost until the date of his death.

Mr. Ingraham was a warm personal friend of P. T. Barnum, and the two of them were seen together a great deal whenever they chanced to be in a town at the same time. He was also an intimate friend of Gideon Wells, Secretary of the Confederate Navy during the Civil War.

It was interesting to hear Mr. Ingraham relate the many incidents of the first and later trips of his early career. He

could also tell of the efforts made by European ambassadors to save Maximilian, then regent of Mexico, from execution.

A memorable event in his early career was the occasion when he was on duty as a special attendant and bodyguard to President Lincoln when the latter visited Bridgeport after his nomination, making a speaking tour of the East.

In our August article we stated Mr. Ingraham entered the employ of the Dixon Company in 1878; this should have been 1870. If he had lived until September 1st, he would have been with the Company 47 years, in active service until the last six months.

THE EVENING MAIL

BROADWAY & FULTON ST.

NEW YORK

REMOVED TO

21, 23, 25, 27 CITY HALL PLACE

Mr. B. H. Rowley

June 25/17

Dear Mr. Rowley:-

Thanks very much for the pencils. I notice a desire on the part of those around me to steal the Eldorado pencils when ever I leave them lying around here for even a few seconds. This I consider an excellent sign of their good quality.

I thank you again
Very sincerely
R. L. Goldberg

"Eldorado" Used by \$50,000 a Year Cartoonist

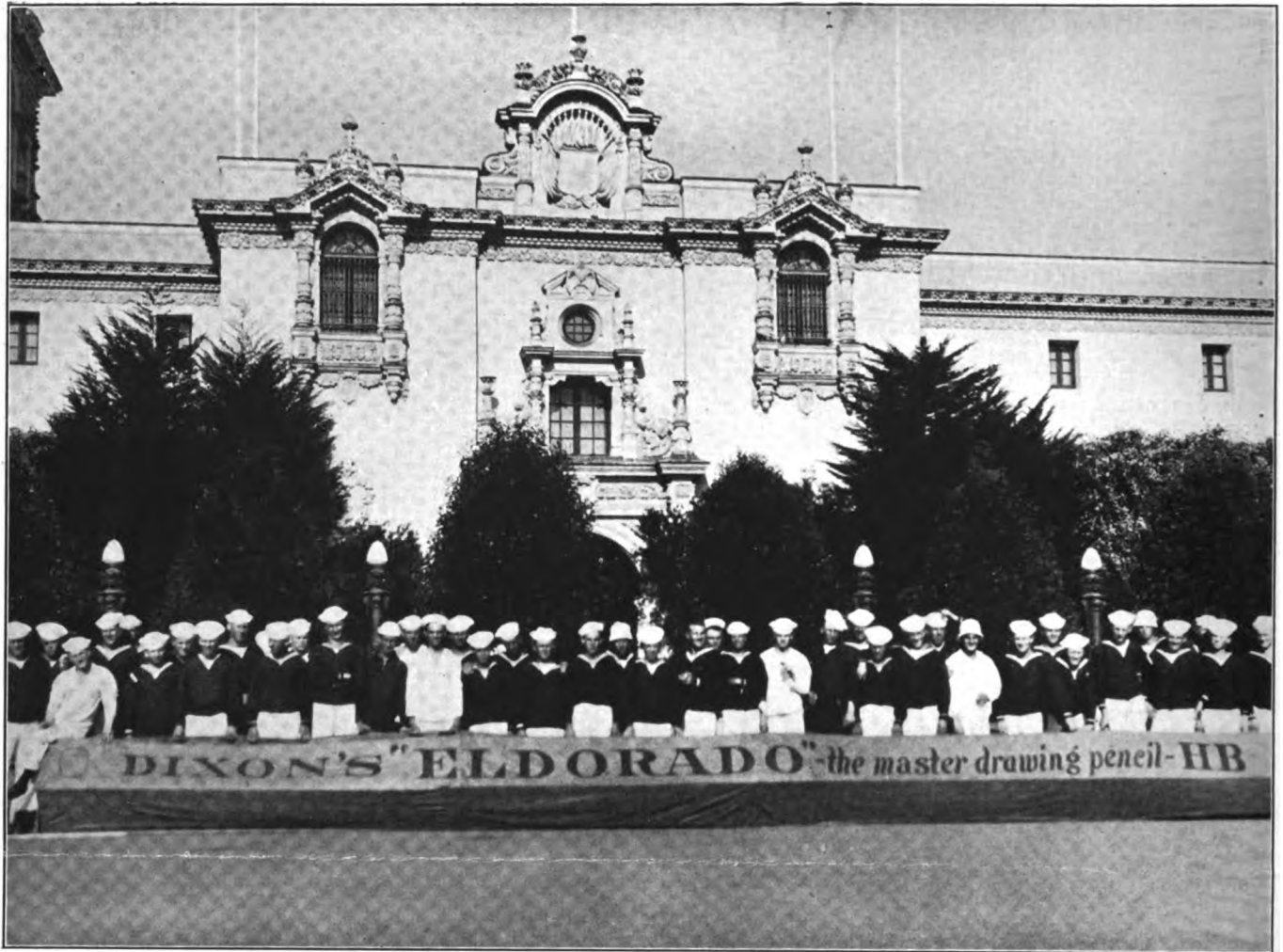
PROBABLY no cartoonist has ever received more substantial evidence of the merit of his art than R. L. Goldberg of New York.

It is noticeable that Goldberg introduces the lead pencil into a good many of his brilliant efforts, and from the above letter it is easy to see that he gets his inspiration from Dixon's "ELDORADO"—the master drawing pencil.

Export Business

THE following is an extract from the paper read by Mr. H. C. Lewis, Treasurer and General Manager of the National Paper & Type Company, at the Springfield, Mass., Export Convention:

"Our foreign business is in a way more important than the domestic and should receive, at least, the same careful and thorough consideration which is given in this country to important buyers. A satisfied foreign buyer is more apt to remain as a permanent customer than the domestic buyer. A foreign customer is dependent upon products arriving at a great distance, and, if satisfied, he hesitates to make a change, lest he fail to receive goods of the same quality or to receive proper service."



"ELDORADO" for the Navy

IT is easy to see from the picture shown here that "ELDORADO" has made a tremendous hit with the Navy boys and they are proud to be photographed in its company.

The occasion is the recent "Friendship Fiesta," staged in San Diego, California, to show United States and Mexico that a feeling of friendship exists between the two countries, so far as the California border is concerned.

The festival was a tremendous success, and in keeping with the general exuberance of the occasion, "ELDORADO" swelled to considerably more than its normal size. This particular "ELDORADO" in fact measured 75 feet by 30 inches in diameter. Instead of the customary casing of finest cedar, its covering is of no more solid a substance than cambric—its filling, empty air.

Eight Yama Yama girls carried the monster pencil in the Ad Club section of the parade—only the heads of the girls appearing above the pencil and each head being tipped with a cap representing a pencil point.

The sensation of the parade was when the pencil, telescoped to only a few feet in length at first, suddenly stretched out for a length of three New York house lots—the girl bearers advancing at a signal until the stubby looking pencil assumed its full giant form.

Local papers made much of the "ELDORADO" exhibit, citing it as a forcible presentation of a pencil of worthy quality.

To Mr. C. E. Wehn, of the Dixon San Francisco office,

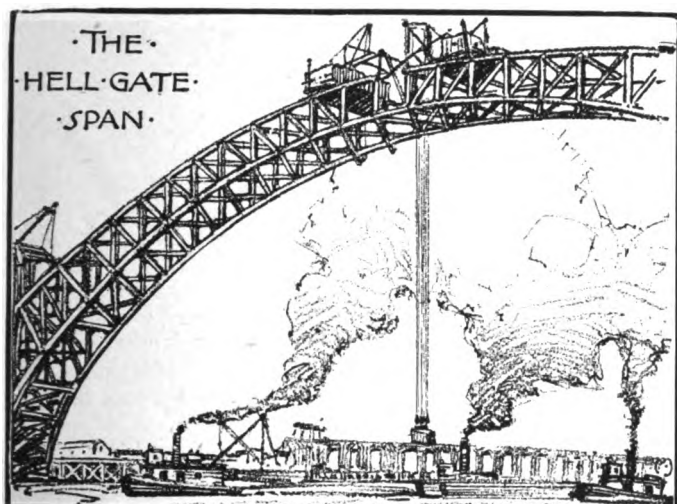
goes the credit for designing and executing this unusual method of bringing "the master drawing pencil" before the people of California.

Accidents

ACCORDING to the United States Bureau of Labor Statistics, 25,000 persons met death by industrial accident in 1914. However, 57,000, or more than twice as many accidents happened in homes, in the street, on the sea, and other places outside of industry.

Perhaps we all take more chances in times of peace than we are aware of. It is said that the dangers of peace, the dangers of our every-day business life, are greater than the dangers of war. One writer who signs himself "An Old Fogey" in *The Valve World*, tells us that if our mothers and wives and sisters and sweethearts are going to weep over us at all, let the tears flow every morning as we start for work, and let there be anthems of praise and thanksgiving every night that we return practically as whole as we left in the morning.

"If there is any one on earth who has good care taken of him it is the soldier. With the soldier any government is paternal to a degree. He is clothed, fed, compelled to keep good hours, prohibited from following bad habits, taken care of in every way, and when finally he does get on the firing line it takes tons and tons of lead to kill or wound him, and if wounded he is doctored and nursed according to the very latest methods of medical and surgical science."



**A Bouquet from "Printers' Ink" on
Our Advertising of Dixon's "Eldorado"
—the master drawing pencil**

A GOOD example of linking up small things to big projects, and so increasing the importance of the small article, is found in the campaign of advertising run by the Joseph Dixon Crucible Company on Dixon's Eldorado drawing pencil.

"Perhaps nothing is more common than a lead pencil. Costing but a trifle, its importance is apt to be lost sight of when contrasted with things of a larger and more costly nature, and hence the temptation to call 'a pencil a pencil' and become slack in the selection of the right one.

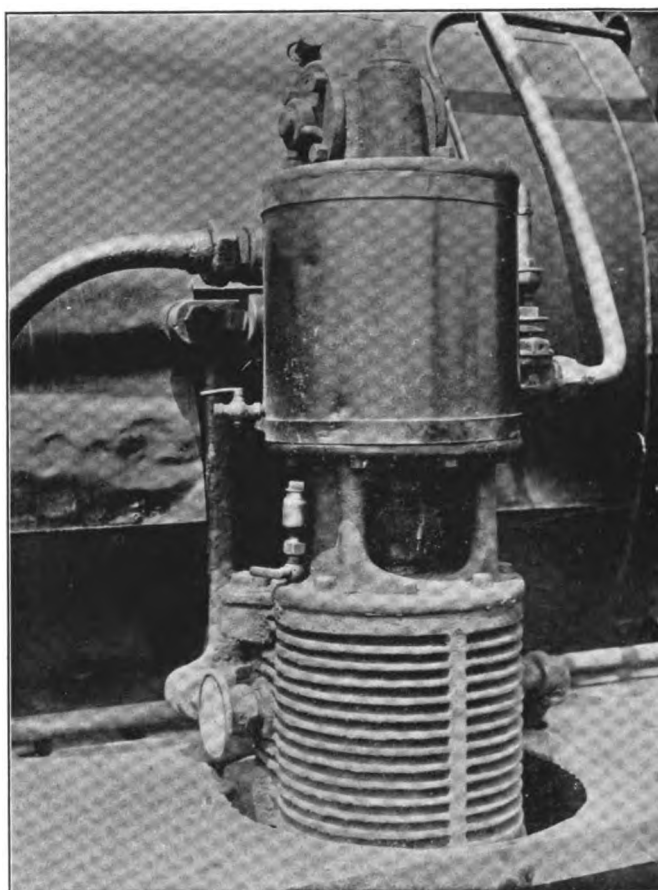
"Behind the Dixon campaign is the idea of associating pencils with great engineering undertakings, showing that before huge structures span gaps or shoot their many stories in the air a *pencil* first laid out the plan.

"In the advertisement reproduced the humble lead pencil is welded with the famous Hell Gate span. 'A Pencil Bridged the River First,' is the headline, thus putting a new thought in the reader's mind as to the importance of the pencil as a necessary tool of mankind to enable them to perform the marvelous feats of engineering which experience has made them capable of achieving. Later along in the copy the thought is tied up to the Dixon product—'When you are designing intricate problems, you cannot afford to have your lead break, or crumble, or tear the paper. You cannot afford not to have the best pencil.'

"Other ads in the series picture other engineering undertakings dependent in their initial planning upon the pencil."

Coming True

BEAUTIFULLY expressed in an editorial in *Office Appliances* is the thought that "out of the clash of sabers and the shriek of shrapnel is being born among us a new sense of values. The tide of more than Belgian history is turning as ideas supplant force in the conquest of destiny. The finer things emerge—the things worth while. You can see it not only in art galleries, but equally in the practical business of office furniture and home decoration. The garish goes: the beautiful returns. We face the East, and the heaps of dead do not prevent the sun from shining. It has happened in Europe. It is happening here. From the death grapple of the strong come anew the refinement and delicacy of civilized living. Will the next war be commercial, as Tolstoy predicted? Then at least it will be fought with more efficient weapons than poison gas and hymns of hate."



**Sweeley Graphite Lubricators for Air
Cylinders of Locomotive Air Pumps**

FOURTEEN months of continuous service feeding Dixon No. 1 Flake Graphite into air cylinder of air pump without the aid of a drop of oil has shown conclusively that this method of lubricating air pump air cylinders is far superior to any method heretofore tried.

Lubricating air cylinders of air pumps in locomotive service has always been a difficult and annoying problem. Many schemes have been tried; oil cups feeding direct into cylinder, auxiliary attachments to hydrostatic lubricator in cab, hand operated, have all resulted in either too much or too little lubricant being supplied. Usually the pump's urgent need for cylinder lubrication, when hand operated devices are depended upon, is evidenced to the engineer by the pump groaning. By this time the cylinder and packing rings are spoiled. Too much oil results in badly gummed up ports and valves, reducing the efficiency of the pump.

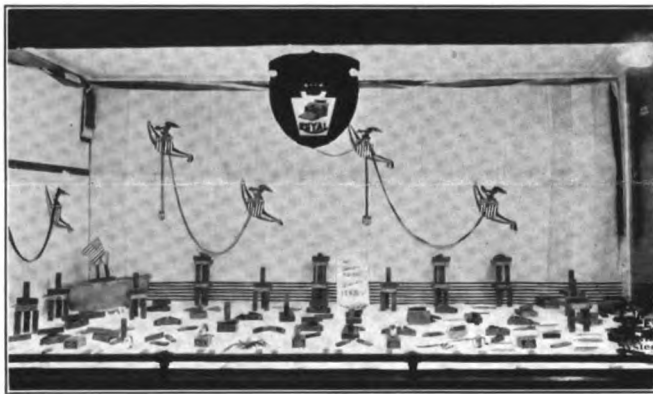
Sweeley Graphite Lubricators had been successfully lubricating upright marine engines, under several conditions of highly superheated steam service, with steam supplied by flash type marine boilers without the aid of any oil, for a long time, before undertaking this difficult air pump problem.

A small graphite lubricator of suitable form to be attached to air cylinder of pump was designed and applied for test during July, 1916. Careful experiments were made to determine the exact amount of graphite required to give ample lubrication and at the same time to guard against too much material being fed into air system. It was found that $\frac{1}{2}$ oz. of No. 1 Flake Graphite fed into a Westinghouse $9\frac{1}{2}$ -inch pump during 12 to 14 hours' period that pump was in service would give best results.

This amount of graphite gives ideal lubrication to air cylinders, does not accumulate on heads or in ports. The valves are perfectly clean, the usual gumming and stopping up of ports evidenced with oil lubrication entirely disappears; in fact all passageways in cylinder run perfectly clean. It was also noticed that the usual heating of air cylinders under severe service conditions was immediately reduced to nearly a normal temperature.

When air pump is run hard, pumping up train or supplying air to a leaky pipe system, this heating is transmitted to engineer's brake valve, making the valve hard to operate and difficult to maintain in good service conditions. With graphite lubrication it was immediately noticed that the engineer's valve was in much better operating condition; in fact the engineer stated that he had the finest handling brake valve on the road and the best performing air pump.

The maintenance of the air cylinders of air pumps is the particular part of the pump that makes the pump go to shop for overhauling and repairs. It is indicated that this system of lubrication will extend length of time between overhauling of pump at least 100%. The same design of feeding mechanism used in the Sweeley locomotive cylinder graphite lubricator and the stationary engine type is used in this air pump lubricator. The inventor is Mr. E. H. Sweeley of Richmond Hill, N. Y. This device is being manufactured and distributed by the Nathan Manufacturing Co., of Flushing, L. I.



A Southern Window Display of Distinction

WE reproduce herewith a photograph of a window display arranged by the Barber Printing & Stationery Company of Winston-Salem, North Carolina, which combines a patriotic note with a very striking mercantile display.

The central feature is Dixon's TICONDEROGA pencil which is skilfully displayed in dozen boxes, and as guns on the battle-ship and in the pencil-box forts. A popular pencil sharpener is shown as an appropriate companion item.

The graceful effect secured by discreet use of shields, red, white and blue streamers, etc., is notable, and the exhibit as a whole is to be highly commended as simple, dignified and very effective.

◆ ◆ ◆

WE are indebted to the Allis-Chalmers Co., West Allis, Wis., for a contribution of pencil shavings. This followed a Goldberg cartoon published in the July issue of GRAPHITE suggesting the saving of pencil shavings for food supplies.

The humor of the cartoon as interpreted by the A-C people is appreciated. In these times of high tension such individual touches are refreshing.

"A Grateful Heart and a Cedar Pencil"

From an Old Book Published 71 Years Ago

IN an old book entitled "Pithy Papers," published in 1846 and given to the writer by an old friend of the Dixon Company, Mr. George E. Putnam has an article entitled as above, from which we take the following:

"Oh, how much more dependent are we frail and feeble creatures, for our daily comforts on little things, than we are apt to imagine! What should we do without pins and needles; thread and string; snuffers, penknives, and scissors? Were you to deprive me, and ten thousand others in the world, of our green shades, spectacles, pens, ink, paper, and cedar pencils, it would be like clipping a fish of its fins, or a bird of her wings.

"A cedar pencil is to me a thing of value; for without one, how should I note down my passing thoughts in wandering through the highways and byways of life? I have tried all manner of substitutes in vain. Some time ago, I took a standish or inkhorn into the fields, and hung it to a button of my waistcoat; but a friend told me that every one I met would take me for an exciseman. My pride—what poor proud creatures we are!—took the alarm, and my inkhorn was laid by. I then tried the patent pencil-case, which is supplied by points of black lead; but I could not write with them pleasantly, so my patent pencil-case was put aside too. A few weeks ago, I bought one of the pocket fountain-pens, that when once properly arranged, enables me, by the pressure of my thumb, to obtain a supply of ink to write with in the open air. It cost me sixteen silver shillings, and for the passing hour did very well; but the ink was shortly dried up, and then it took me half an hour to render my pocket fountain-pen once more fit for service. In short, I was obliged to resume my cedar pencil.

"Both the sight and smell of a cedar pencil are pleasant to me, bringing with them, as they do, so many remembrances of my youth, from the time when I first sketched the outline of a gatepost, to the day when I finished my chef d'œuvre of Conway Castle. Days of my childhood! what a contrast are ye to the present hour. The ruddy-faced boy—the grey-headed old man. The future gilded with the bright beams of hope—the past shadowed with the dark clouds of experience. Well! well!

"'With shine and shade, with spring and fall—
Mercy has mingled with them all.'

"The trade of cedar pencil making is conducted to a considerable extent by the Jewish people; so that in their business, no doubt, they are often carried back in imagination to the goodly groves of Lebanon, and the temple of temples built by Solomon.

"The cedar pencil is a light, cleanly, and portable appendage, that thousands and tens of thousands carry in their pockets, or their pocket-books. The merchant makes with it his memoranda on 'Change; the artist sketches with it the surrounding landscape, amid the lakes and the mountains; the author notes down with it his musing thoughts and wayward fancies on the hill, or in the valley; and tradesmen, of different grades and shades, find a use for it in their several callings.

"What a delightful talent is that of representing on canvas or paper the likeness of the persons and things that interest us as we journey on in our pilgrimage to a better world! The camel-hair pencil may be used for this purpose in oil colors and water colors; the pen may be dipped in bistre, Indian-red, and common ink; and chalks of different colors are very effective; but neither the pen, the camel-hair



A Striking Eldorado Window. Smith Bros., Oakland, Cal.

pencil, nor chalk is so easily carried about with us, nor are they so ready to use at the instant required, as the cedar pencil. What goodly drawings have I seen executed with a cedar pencil! I think of Him, who, in His wisdom, mingled the minerals of the earth, so as to enable His creatures to make so useful a thing as a pencil. All things were made by Him; I thank Him for every gift, and among them for that which He has thus provided.

"Since writing the above, my friend, who has been looking over my remarks, has given me the following additional rap on the knuckles with his cedar pencil: 'They who undertake to give information to others, should, at least, be careful that their own information is correct. Cedar pencils are not made of the wood of the cedar of Lebanon, as you appear to suppose, but of the red cedar, a species of juniper or pine, which grows in North America and the West Indies.'

"On examining the subject more narrowly, I find, as I have often found on such occasions, that he is right, and that I am wrong. The wood of the red cedar is commoner than that of the cedar of Lebanon; its softness, powerful odor, and property of resisting insects, render it very suitable for the purpose.

"The plumbago, or black lead, used in cedar pencils, is found in Cumberland, and in several parts of the continent of America.

"I could run on a long time on the subject of cedar pencils; but as it might not be so pleasant to you as to myself, we will now bring things to a close. Whatever may be our possessions and our powers, they are the gifts of God,

and as such should be thankfully acknowledged. Be it little or much that we call our own, by and by it will signify but little. The ungodly possessor of a lead mine and a grove of cedars may be envied for his wealth; but give me, as a much more valuable heritage, a grateful heart and a cedar pencil."

◆ ◆ ◆



WITH many people the problem of painting the roof has been always a rather uncertain one. Booklet "Paint for Roofs" has been gotten out with an idea of solving this roof-paint problem.

As Dixon's Silica-Graphite Paint gives the longest protection, it follows naturally that its yearly cost is the lowest of any protective paints. Everybody is interested in one way or another in the protection of roofs; this booklet throws a great deal of light on this subject.

Send for booklet No. 190-3B.

How the Draft Will Affect Business

ACCORDING to Mr. Babson nearly 700,000 men will soon step from civil life into military service. At first thought this seems like a staggering loss of customers to the retail trade. The fact is, however, that this number of men is really less than 2% of the total wage and salary earners in the United States. Moreover, their earnings probably do not amount to over 2% of the total wage and salary earnings. Ninety-eight per cent. of the wage and salary earners will be fully employed at the highest wages they have ever received. Women will now rapidly enter gainful occupations formerly occupied by men, and will help to fill the gaps in the customers' ranks. Taken altogether, merchants should suffer very little actual loss in business because of the draft. We should look forward to a heavy volume of gross business this fall.

What Sherman Did Say

GENERAL SHERMAN'S often quoted and at the present time most significant statement regarding war, is not known by many in its entirety. Here is what the famous general really did say, and it is a classic:

"I confess without shame that I am tired and sick of war. Its glory is all moonshine. Even success, the most brilliant, is over dead and mangled bodies, the anguish and lamentation of distant families appealing to me for missing sons, husbands and fathers. It is only those who have not heard a shot nor heard the shrieks and groans of the wounded and lacerated, that cry aloud for more blood, more vengeance, more desolation. War is hell!"

—*Advertising Club News.*

Much Alike

"DEAR me! Isn't that just too provoking?" exclaimed Mrs. Van Style, as she opened the parcels which had just arrived from the department store.

"What is it, dear?" asked her husband. "Didn't they send you the things you ordered?"

"Yes, they sent them right enough, but I can't remember which is the bathing suit and which is the street costume."—*New York World.*

The Cruel Wretch!

NOT all of the Dixon girls are used to country ways and things. One of them while on her vacation out on the Jersey hills happened out toward the cow lot about milking time and asked the man at work there several questions.

"Why don't you milk that cow over in the other lot?"

"Because she's dry, Miss."

"Dry?"

"Yes, Miss, she has been dry for two weeks."

"You cruel wretch! why don't you give her some water?"

The man turned his face away, overcome with emotions he could not suppress.

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"SHAKESPEARE said, 'Good wine needs no bush,' and I say, 'Dixon's Graphite needs no push.' Twenty years ago my wife called my attention to a squeaky piano pedal. 'I'll fix that with Dixon's Graphite,' said I, and went out and bought a little round box of Dixon's stick graphite. Woman-like, the wife laid it away safely. Sunday last, in company with my son and Newark neighborhood boys, I took our annual summer bicycle ride over the South Orange Mountains. Before starting my boy stated that his chain needed lubricating. I had used up a recent supply of Dixon's Graphite and asked my wife if she had some grease. She remembered the twenty-year-old stick of Dixon's Graphite used on the piano, and to my surprise it was as good as it was twenty years ago.

"I'm sending you the remains of the original package, as it seems wonderful in these days of much shoddy manufacture that an article of such universal use and appreciation as Dixon's comes up smiling at the end of nearly a quarter of a century after purchase."—*W. J. Morgan, Editor, New Jersey Motorist.*

American Slang and Andrew Lang

WHEN our soldiers arrived in France they declared they were there to "Can the Kaiser." *Reedy's Mirror*, of St. Louis, extracts amusement over the effort of the London *Morning Post* to interpret this example of American slang. "The *Morning Post* is tickled by the bit of slang, and solemnly explains its meaning as being that the American Army intends hermetically to seal the All-Highest War Lord—which is funny. To 'can' anyone, or by extension of colloquial

metaphor, anything, is derived from the small boy's method of getting rid of an objectionable dog by tying a tin can to his tail. The can clatters, the dog runs; the can clatters more, the dog runs and never comes back. The object tied becomes the synonym of treatment of anyone or anything that is not needed around.

"The *Morning Post's* definition of the phrase is almost as good as Andrew Lang's explanation of our word 'jag' when he first came upon it. It was a masterpiece of philosophic deduction. 'A jag,' he said, 'is some outlandish American appurtenance or equipment or convenience of daily life.' He gathered this from reading in an American newspaper about a man 'who came home carrying an umbrella and a jag, and, after depositing his umbrella in a corner of the room, took his jag carefully to bed.' One wonders how much of learned philological exposition by students of language is just as accurate as the explanation of the slang verb 'to can' and the slang noun 'jag.'"

—*A. N. A. News Digest Bulletin.*

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EVEN the "dollar watch" now costs a dollar thirty-five.

Oh, Grandfather!

WE are told that one hundred years ago dentistry had no organized profession. To learn it you paid a big fee or "picked it up." There were no porcelain teeth and each dentist made his own "tools."

The first dental school, the first dental periodical, and the first dental association were started in 1839. Since then dentistry has made great strides and is a recognized and indispensable profession.

It has been demonstrated that apparently unconnected diseases often have their origin in decayed teeth; many supposedly defective children have been restored to normality by putting their teeth in order. To-day we are told that we must save the natural teeth as they and their care is an asset for health.

Philadelphia has been called the "Home of Dentistry" because it leads the world in facilities for the education and training of dentists, and in the quantity and quality of its dental supplies.

"We" and "I"

MR. FRANK C. LETTS, President of the Western and of the National Grocer Companies, believes apparently that the personal pronoun

"I" is injected into conversation more often by lesser officials than even by the greater officials of companies and corporations.

Mr. Letts says that there are two varieties of employers. One kind says, "Bill, I want you to do this." The other sort says, "Bill, we will do this." It is the latter class, the men who enter into the work with their men, who are the real successes.

We all know how effective an editorial "we" is. It not only sounds more impersonal, but it also sounds bigger and broader and closer. It is not as dogmatic. It does not sound as though "we" owned the whole business.

GRAPHITIZED COMMENT

"THIS is to inform you that we have used Dixon's Graphite Auto Lubricants for the past two years and consider them highly efficient for use in all our fire apparatus."—*Martin B. Murray, Supervisor of Motor Apparatus, Hull Fire Dept.*

"PLEASE send us 15 pounds of Graphite Grease for a Haynes car. We have been using your grease for 30 years for wagons and general purposes, and for ten years on autos, and would have no other."—*Stevenson Cold Storage Door Company.*

NO. 66.—Would you advise using powdered graphite in cylinder oils for lubricating auto and gas engine cylinders? How much should be used per gallon of oil to obtain best results?
EDWARD ANDERSON.

Osaco, Wis.

The use of flake graphite in connection with cylinder oil is to be highly recommended. A teaspoonful of fine flake graphite to a gallon of oil is the proper proportion.

"WE take pleasure in advising you that our crucible reports show an improvement. During the past sixty days we have had several No. 60 and No. 70 pots give us seventeen heats and better. We hope the improvement will continue until we get twenty-four heats out of a pot as we did before the war."—*F. H. Koretke Brass & Mfg. Co.*

THE following report was received from our Chicago office:—

GIBSON BROS. MFG. CO.,
North Chicago, Ill.

"Dixon No. 50's going 22 heats. Can't see but what they are as good now as ever before."—*W. B. Allen.*

GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"AFTER having tried your 'ELDORADO' pencils I find my judgment coincides with that of other draftsmen, the even grain and the smooth lead meeting every requirement."

"WE acknowledge, with thanks, receipt of your sample 'ELDORADO' pencil, and can say candidly and truthfully that it is a pleasure to use them, and we will be only too glad to specify your pencil to our stationer."

"WE have duly received your favor of July 3 and thank you very much for the samples of 'ELDORADO' drawing pencils, which you sent us. We have tried them out and found them extremely satisfactory and much better than the general grades on the market."

"YOUR samples of pencils arrived and have been found to be entirely satisfactory for my work in the drafting room as well as other work. They were found to be of uniform hardness throughout—thus making a neat appearing piece of work."

"WE wish to thank you for your samples of 'ELDORADO' pencils sent with your letter of June 20. We have tried these out and like them very much."

"IN reply to your inquiry, we received the samples of pencils recently sent us. They meet our requirements. We have used Dixon's pencils extensively and find them entirely satisfactory."

"THE samples of 'ELDORADO' pencils you recently sent us have been thoroughly tested by the several artists of our staff. The pencil was found excellent and satisfactory in every respect by all. 'ELDORADO' is as good in every way as the best imported pencil we have been using. Thanking you for your kind attention, we are."

"WE are pleased to advise you that the samples of Dixon's 'ELDORADO' drawing pencils are giving entire satisfaction, and will be glad to specify them on our next order."

"REPLYING to your letter of recent date relative to your 'ELDORADO' drawing pencils and your Best White pencils for writing on blue prints, beg to advise that our engineers have been using the above pencils for some time and are very much pleased with them. We have been ordering them through —."

"THE sample pencils you sent us are very satisfactory and we are now using your 'ELDORADO' drawing pencils exclusively on all work in our Engineering Department. We have ordered a supply of these pencils recently from — and will specify same make in future orders."

"I WISH to acknowledge receipt of samples of your 'ELDORADO' drawing pencils. We have been looking around for a substitute for the — for drafting and ledger work, but were unable to find anything until we tried out the 'ELDORADO.' We have today placed an order with — for a supply of these pencils."

"WE are in receipt of several of your 'ELDORADO' pencils and have given them a trial. We find them very satisfactory and intend to use them in the future. We are also users of your red, yellow, green and white crayons, and cannot recommend them too highly."

"It gives me great pleasure to inform you that the sample pencils meet my requirements exactly. The 'F' grade is exceptionally good for architectural work such as required by me. My local dealer carries Dixon's pencils and can supply me hereafter."

"IN reply to your letter of July 30 beg leave to state that the samples you sent us were received, were used, and since then we have been using the 'ELDORADO' continually. We find the 'ELDORADO' equal to any pencil we have used and if the quality remains the same we will continue using them."

"WE received the pencils you sent us and we take pleasure in informing you that your 'ELDORADO' drawing pencil is certainly a good one. We are very well satisfied with it and expect to use no other in the future."

An American Achievement

DIXON'S
ELDORADO
"the master drawing pencil"

Highest Quality, Hexagon Shape, Yellow Finish, Stamped in Gold

Packed in handsome dozen boxes

Leads of very fine texture for
exacting service

6 B Extra soft, very deep black
5 B Extra soft, very black
4 B Very soft, extra black
3 B Very soft, very black
2 B Very soft, black
B Soft, black
HB Hard, black
F Firm
H Hard

Graded to world's standard
in 17 degrees

2 H Harder
3 H Very hard
4 H Extra hard
5 H }
6 H } Varying degrees of
7 H } extra hardness
8 H }
9 H }
No. 352, "Best White"

The following use *chiefly* the grades indicated:

Architects (and Architectural Draftsmen)—2B, B, HB, F, H, 2H.

Engineers (and Engineering Draftsmen)—HB, 2H, 4H, 6H.

Mechanical Draftsmen—3H to 9H.

Artists—6B, 4B, HB, 2H.

Bank Tellers—4B (checking deposit slips, etc.).

Bookkeepers—3H, 4H, 5H.

Builders—2B, HB, H, 2H.

Designers—H, 2H, 3H, 4H, 5H, 6H.

Engravers—HB, F, H, 2H, 3H, 4H, 5H, 6H.

Fire Insurance Companies (for mapping)—4H, 6H.

Lithographers—4B, 2B, HB, F, H, 3H.

Lumber Companies (for tally sheets, etc.)—4H, 5H, 6H.

Office Executives—HB.

Stenographers—2B, B, HB.

Stock Brokers—2B, HB, H.

Stone Cutters—7H, 8H, 9H.

Writers (editors, reporters, advertising men, etc.)—6B, 5B, 4B, 3B, 2B, B, HB.

For	{	B	For	{	6H	Lettering	{	For	{	3H	For	{
Tracing	{	HB	For	{	6H	Field Notes	{	Drawings	{	4H	Cross	{
	{	F	Layouts	{		Detailing	{	not inked	{	4H	Sections	{
												9H

For sale by first-class dealers in drawing supplies and stationery

Made in Jersey City, N. J., by the

JOSEPH DIXON CRUCIBLE COMPANY



ESTABLISHED 1827



THE DE VINNE PRESS
NEW YORK

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Geol.
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GR
V. 19
No. 10

Graphite

VOL. XIX

OCTOBER, 1917

No. 10



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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National Paper and Type Company, 31-35 Burling Slip, N. Y.
With Branch Agencies in Mexico, Cuba, Peru, Argentine,
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FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

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Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS
Canadian Asbestos Company, Montreal, Quebec, Can.

Another
boost for

**DIXON'S
ELDORADO**
"the master drawing pencil"

THE Ralston Steel Car Company, one of the largest concerns of its kind in the United States, has tried out many pencils. It ought to know a good one. Read what its chief engineer says about the Eldorado:

"It gives me great pleasure to write you in appreciation of the quality of your Dixon's 'Eldorado' drawing pencils, which we have been using for some time, and believe you have produced the equal, if not superior to any on the market.

Your Dixon's Best White No. 352 fills a long-felt want in this line.

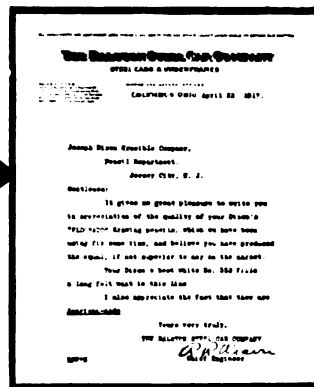
I also appreciate the fact that they are American-made."

This is only one of many unsolicited compliments that are constantly coming Eldorado-way. And no wonder—"the master drawing pencil" is long-wearing—it holds its point without frequent sharpening—it bears unusual pressure without breaking. 17 degrees, each true to grade. There's an Eldorado for every pencil purpose.

Uncle Sam chose the Eldorado for his army engineers now in Europe. Isn't "the master drawing pencil" worth your trying? Write us on your letterhead for full-length sample of your favorite degrees.

JOSEPH DIXON CRUCIBLE CO.
Dept. 190-J, Jersey City, N. J.

DIXON'S BEST WHITE N° 352
writes white on blueprints,



"The Ship that Found Herself"

MR. JOHN SULLIVAN, Secretary-Treasurer of the Association of National Advertisers, in his remarks before the District Representatives of the Joseph Dixon Crucible Company at their last convention, said that Business, like the ship in Kipling's story, must "find itself." It may be remembered that the ship was on her first voyage. She was a fine cargo ship. She was proud in all her newness. The girl that christened her was proud of her. She was a fine ship.

"Is n't she a beauty!" said the girl. "Oh, she is not bad," said the old Scotch skipper. "But I am sayin' that it takes more than christenin' to mak' a ship. In the nature o' things, if ye follow me, she's just irons and rivets and plates put into the form of a ship. She has to find herself yet. She is all here, but the parts of her have not learned to work together yet. They've had no chance."

"The engines are working beautifully. I can hear them," said the girl.

"Yes, indeed. But there's more than engines to a ship. Every inch of her, ye'll understand, has to be livened up and made to work wi' its neighbor—sweetenin' her, as we call it, technically. We can no more than drive and steer her and so forth; but if we have rough weather this trip—it's likely—she'll learn the rest by heart!"

The rough weather came. A huge Atlantic wave climbed over the bow and sat on the capstan, which sputtered and complained at the unexpected blow. The deck beams complained at the unusual weight of the capstan. The plates and the rivets groaned and protested. The stringers declared they would be compelled to take steps to remedy matters as they considered themselves the most important parts because of their length.

Then the engine snorted at the screw and wanted to know if it had gone off the handle. "If I had," replied the screw, "you'd have been scrap iron by this time. The sea dropped away from me, and I had nothing to catch on to." And so the argument went on in every part of the ship, plates and rivets, big parts and little parts; boilers, engines, valves and shafts. The foremast, being outside and high up where it could take dispassionate view of things, decided there was an organized conspiracy against them. It was sure of it as every single one of the waves was headed directly for the bows. The whole sea was concerned in it, and so was the wind. It was awful.

"Ease off! Ease off!" they all cried; "you'll crush us, you've cramped us you've crumpled us."

"Hush! oh, hush!" said Steam, who of course had been to sea many times before. "My friends, let us all pull together. No one plate and no one rivet was meant to stand all the strain; share it among you." Steam did not say that he had whispered the very same thing to every single piece of iron aboard. There is no sense in telling too much.

Later they made the discovery of something that entirely changed the situation. They found that each part had been designed and placed right for its work, and when each held and pushed or pulled according to its function the whole ship steadied and balanced and successfully met the heaviest waves and the strongest winds.

When the ship made quarantine there was a long silence that reached without break from the cutwater to the propeller-blades. Steam knew what had happened, "for when a ship finds herself all the talking of the separate pieces ceases and melts into one voice, which is the soul of the ship."

The moral which Mr. Sullivan apparently intended should be drawn from his apt illustration was that each and every one in the Dixon organization—the president, his officers, the superintendents, engineers, mechanics, laborers, and down to the least member, were parts of the great ship of Dixon—each was important in its way and in order to successfully meet the adverse waves and winds of Business which are bound to come must hold and push and pull and stand together. Then all of the separate parts would be coördinated and the organization would find itself.

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"It is sometimes asked why the National Government cannot undertake the work performed by the Red Cross Society. The sweetest of all blessings are those on which love bestows its promptings. Congress legislates toward a duly specified purpose. Something is to be done. There are estimates of cost and plans are precisely marked out. Debates follow. Days pass; often weeks. The law at last goes into the book of statutes. Around it are all the guards known to red-tape. The Red Cross is ready always to act. Before the call has time to send its echo back, the Red Cross has begun relief. Governments must first know of a need. The Red Cross prepares to meet it before it is felt. Governments move deliberately; the Red Cross immediately.

"Governments read over the laws, hunting leisurely, if learnedly and conscientiously, for their authority. The Red Cross has no law but humanity. Governments, in their operations, include everybody, dealing with masses or classes. The Red Cross sees the one man who suffers and his case at the moment is paramount."

Acceptances

ONE of the chief obstacles encountered by American manufacturers who have desired to enter the export field has been their inability to grant the same long-term credit that foreign customers have been accustomed to receive from competitors abroad.

The acceptance credit has helped to solve this difficulty in a manner satisfactory to all parties concerned.

The credit which is required to enable a foreign importer to pay for his goods is established by drawing at sixty or ninety days' sight on a New York accepting bank or trust company, the acceptance being discounted by such New York concern at an agreed rate.

The acceptance is a feature of banking about which the American business man still has much to learn. Three years ago this form of credit was scarcely known in the United States. Now there is a large and ever broadening market for such paper. The acceptance has for a great many years been an instrument of credit in England and on the Continent of Europe, although so little known in the United States.

To show how rapidly acceptances are coming into favor in the United States, one has only to look at the report of the Federal Reserve banks. During 1916 these banks alone purchased for investment in the open market \$385,915,973 of trade and bankers' acceptances. This was an increase of nearly 22% over the amount purchased in 1915.

There are two kinds of acceptances, the bankers' acceptance and the trade acceptance. They differ only in the character of the acceptor. In the case of the trade acceptance, which has not yet come into common use in this country, but has long been employed abroad, the seller of goods draws a bill on the buyer, and if the buyer finds the draft in order he writes "accepted" across its face together with the name of his city or town and date and his signature, and returns the draft to the seller, who, if he wishes, can discount it at his bank. It then becomes a trade acceptance circulating at a comparatively low rate of interest. In the case of the bankers' acceptance the buyer of merchandise arranges with his bank to have all bills drawn against him accepted by the bank.

The bankers' acceptance is defined by the Federal Reserve bank as "a bill of exchange of which the acceptor is a bank or trust company or a firm, person, or company or corporation engaged in the business of granting bankers' acceptance credits." In other words, a bank acceptance consists of the extension of the bank's credit to a customer; that is, the bank for a consideration permits the customer to use the bank's credit. The credit thus granted may be either secured or unsecured, depending entirely on the character and financial responsibility of the applicant.

There is very much of interest that may be said concerning acceptances, and such information will undoubtedly readily be given to any inquirer who asks his bank for it.

Gas Holders, Brooklyn Borough Gas Company, Coney Island, N. Y.

(See Cover)

THE gas holders of the above-mentioned company, shown on our cover, are respectively 100,000, 750,000 and 2,000,000 cubic feet capacity.

The Vassilaros Contracting Company of New York City were the contracting painters. The paint selected was Dixon's Silica-Graphite Paint, as that paint has proven most serviceable for exposed metal surfaces, these holders being subjected to the destructive effect of salt air and other rust-producing agencies.

Owners of property have long ago learned that paint economy is determined by dividing the cost into the number of years of good protection.

Silica-Graphite Paint for Brine Coils, Condensers, etc.



D. L. FAGNAN, Chief Engineer of D. Winant, Inc., 178 Front Street, New York City, is well known to readers of GRAPHITE.

Mr. Fagnan writes the Dixon Company as follows: "I enclose article in *Practical Engineer*, in which you will see that a writer alleges that a pure graphite paint is superior for protection of brine coils, etc.

"I can say from my own experience that this writer is in error. A pure graphite paint is too soft in its pigment, and will not give the wear. I have given various graphite paints a trial, and when I compare their wearing qualities with Dixon's Silica-Graphite Paint in this plant, I am bound to say truthfully that the comparison favors Dixon's 3 to 1.

"The conditions in this storage plant are very severe on the ammonia condensers, absorbers, deep well piping, etc., as our water is very corrosive, quite salt, and strongly charged with acid.

"When we repaint you can rest assured that nothing but Dixon's Silica-Graphite Paint will be used, as it protects iron work, etc., better than any other paint we have ever used."



THE above shows the new counter display rack the Joseph Dixon Crucible Company is sending out to dealers to help them sell more Dixon's Graphite Automobile Lubricants.

The rack is of metal and enameled in red and black. On the back, for use by the dealer's salesmen, is a chart showing the uses of the various lubricants. On the front are spaces for displaying booklets and glass jars containing samples of the lubricants.

Dealers interested in obtaining one of these racks should write to the Joseph Dixon Crucible Co., Jersey City, N. J., Dept. H.

Dyke's Automobile Encyclopedia

Sixth Edition

THIS is a book deserving of mention. The new edition represents Mr. Dyke's twenty-one years of experience as a supply man and publisher.

The book is not exactly an encyclopedia in the true sense of the word, yet any subject, trouble, remedy or repair can be found in the 6000 lines of index.

It isn't exactly a textbook, yet fifty-eight of the leading auto schools use part of this book to teach the fundamental principles of assembly, engine principles, ignition, etc.

A beginner will learn the fundamental principles of each and every part of an automobile from axle to engine. All cars are covered in a distinctive and unique way, which is to teach the principles of the parts first, then explain the variance of construction afterwards. Complete specifications of all cars are given.

The repair subject is probably the most interesting part of the book. Before taking up repairs you first learn the principle and construction of all the parts, and are then taken step by step through repairing and adjusting. You are taught the use of tools, how to adjust brakes, clutches, etc.

The electric subject also deserves special mention. It covers the entire field in a simplified manner. It explains starting, lighting, and ignition systems.

All in all, this appears to be the best book on the subject Mr. Dyke has yet published, and we believe well worth the price of \$3. We recommend it to anyone desiring to know the "why" and "wherefore" of his car. The address of the publisher is A. L. Dyke, Granite Building, St. Louis, Mo.



Eldorado Display by Riddle & Wunderle Co., Chicago, Ill.

It is a Good Indication

WHEN Albert F. Dewey, Port Inglis, Fla., states that for the past five years, on both iron and wood exposed to

the salt air, he finds Dixon's Silica-Graphite Paint far superior to any other,

WHEN the Manitowoc Gas Co., Manitowoc, Wis., state that they have used Dixon's Silica-Graphite Paint for over twelve years on their gas meters, holders, etc., and that it has proved much better than any other paint ever used,

WHEN we are told by a prominent engineer that Dixon's Silica-Graphite Paint has given a service of over eleven years on a bridge over the Ohio River between East Liverpool, Ohio, and Newell, W. Va.,

WHEN the Clinton & Illinois Bridge Co., Clinton, Ia., tell us of a service of thirteen years given by Dixon's Paint on the high bridge over the Mississippi River,

WHEN the Wabash-Pittsburgh Terminal Railway of Pittsburgh, Pa., tell us that they do not think it possible to obtain a better paint for bridges, steel cars and other steel structures than Dixon's Silica-Graphite Paint,

WHEN a prominent railroad company, whose name we are not permitted to use, tell us that Dixon's Silica-Graphite Paint has given a service of ten years on steel ore cars,

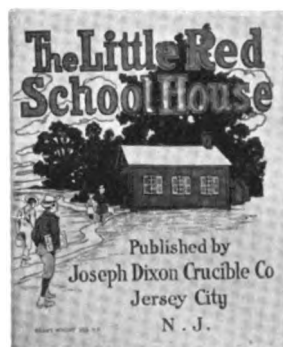
WHEN the chief engineer of a trunk line tells us that Dixon's Silica-Graphite Paint was used on 14,000 tons of steel bridges in 1909, and that after six years' service was in excellent condition, notwithstanding the fact that the surfaces were subjected to severe atmospheric conditions, heavy smoke, etc.,

WHEN the Sterling Coal Company, Philadelphia, Pa., write that Dixon's Silica-Graphite Paint was used on their steel coal cars in 1913 and that it has given entirely satisfactory service, the cars being in very good condition now,

WHEN we are told that the standpipe at Boothbay Harbor, Me., has been painted over nine years with Dixon's Silica-Graphite Paint and repainting is not necessary,

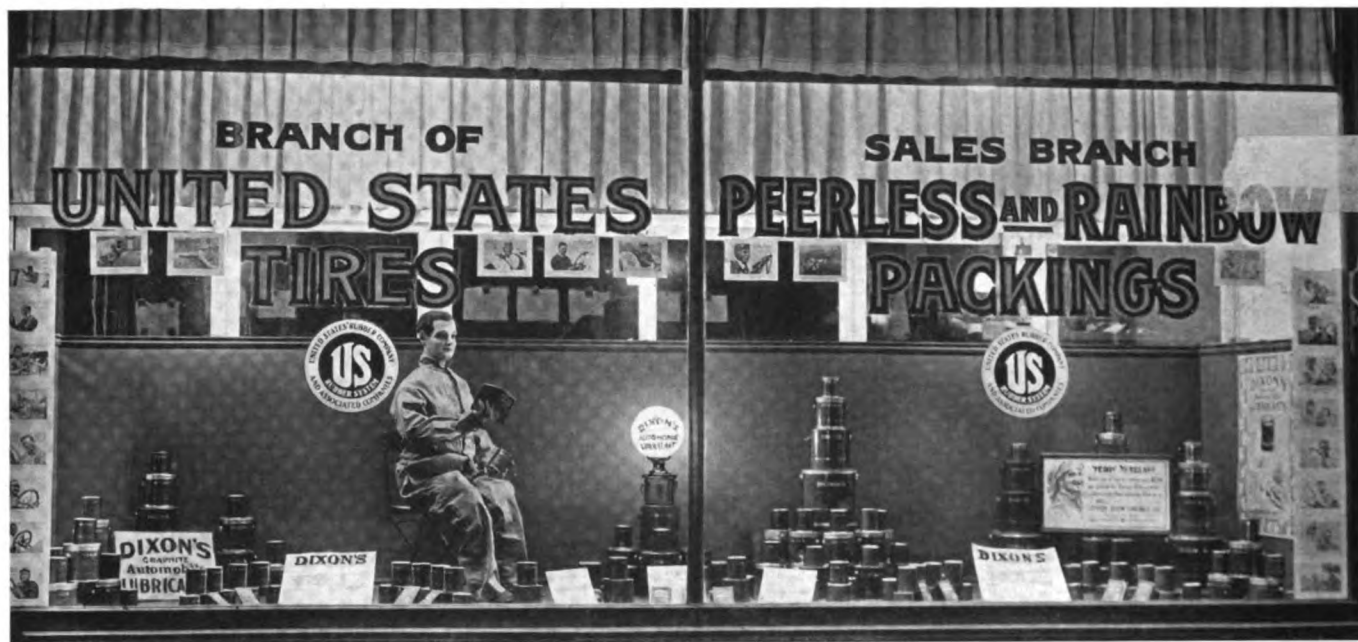
THEN it is a good indication that railway companies, water companies, engineers, and the world generally, believe that for durability and economy no protective paint can be found that will give the service and economy of Dixon's Silica-Graphite Paint, whether the structures are inland or on the seaboard, whether north or south of the equator or on the equator itself.

The Little Red School House



THE Manager of our School Department attended, in his youth, what is known to-day as the Little Red School House. It was typical of New England. Later on in life, when he had the honor of making the school teachers of the United States acquainted with the merits of the Dixon pencils, he thought that perhaps the story of those who had done much for the up-building of the nation and whose education had been limited, might be of interest to the children of this generation, and so the little book was compiled, which gives, in a very brief form, short biographical sketches of some of the men and women who have been identified with the early history of this country.

The complete story of their lives may be obtained from almost any school library, and it is hoped that their success in overcoming obstacles and acquiring an education under difficulties may be an example for the coming generation.



A Striking Dixon Window of the Syracuse Branch of the U. S. Rubber Co.

A Real Expert Witness

A YOUNG foreigner was being tried in court and the questioning by the lawyer on the opposite side began.

"Now, Laszky, what do you do?"

"Ven?" asked Laszky.

"When you work, of course," said the lawyer.

"Vy, work—"

"I know," said the lawyer, "but what at?"

"At a bench."

"Oh!" groaned the lawyer. "Where do you work at a bench?"

"In a factory."

"What kind of a factory?"

"Brick."

"You make bricks?"

"No, de factory is made of bricks."

"Now, Laszky, what do you make in that factory?"

"Eight dollars a week."

"No, no! What does the factory make?"

"I dunno; a lot of money, I think."

"Now, listen! What kind of goods does the factory produce?"

"Oh," said Laszky, "good goods."

"I know, but what kind of good goods?"

"The best."

"The best of what?"

"The best there is."

"Of what?"

"Of dose goods."

"Your Honor," said the lawyer, "I give up."—*Louisville Times*.

We wonder if Laszky works in the Dixon Crucible factory or pencil factory or graphite lubricant factory. All Dixon factories are of brick, all have benches, the goods made are of the best—"the best there is."

Whose Fault?

WE read in a daily paper that a tall, spare man with white hair, rugged face and keen, bright eyes, and wearing a long frock coat of semi-military cut, attracted the attention of passengers on board the steamboat *Berkshire*, of the Hudson Navigation Company, as she neared her slip at the foot of Desbrosses Street on her trip from Albany lately. The white-haired man, who looked to be at least seventy-five years old, was as straight as an Indian and carried himself with an air that somehow conveyed the impression that he was some one of consequence.

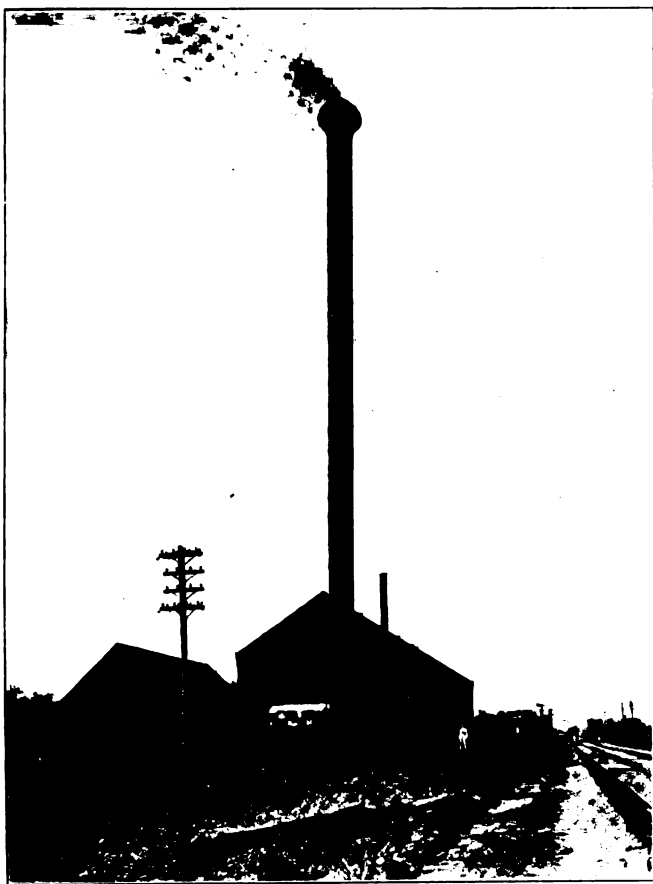
Suddenly he swayed, lurched forward and fell heavily to the deck, unconscious. To ascertain his identity the captain of the boat searched the man's clothing. In his pockets were a number of letters.

When the physician who was called finally succeeded in restoring him to consciousness and he was asked his name he admitted that it was the name mentioned in the correspondence. Being pressed, he acknowledged that he had had nothing to eat for three days. In searching his clothes the captain had discovered he was penniless, and so very delicately a sum of money was offered to the man. He thanked them, but said he needed nothing, and then with shoulders thrown back and his head held proudly, he walked away and disappeared up Desbrosses Street.

From the letters and clippings found in his pockets it was shown that he was an American and had been of sporting proclivities. At one time he broke the bank at Monte Carlo, winning in one sitting \$200,000. Other clippings told of his exploits at the roulette wheel at Baden-Baden and other German spas in the same year—that of 1867, and one clipping, dated 1873, said he had "made a killing at a Western gambling resort."

Another newspaper clipping, dated 1898, told how he had tried to enlist to fight in the war with Spain, but had been rejected because of his age. Other clippings showed that he had met with reverses.

This perhaps is only one of many similar cases.



Smokestack, American Lighting Company, Americus, Ga.

Five Years' Paint Service

THE "New South" that we read so much about is marked by smokestacks of all kinds, big ones and little ones, those made of brick and those made of metal. If you see a particularly fine-looking metal stack, ten to one it is painted with Dixon's Silica-Graphite Paint.

The smokestack illustrated above was painted with Dixon's Paint in 1912, and again in 1917. The five years of service under the conditions was considered so remarkable that the intelligent management of the company decided to use none other.

Dixon's Silica-Graphite Paint costs a little more per gallon, but when you divide the five years' service into the original cost of the material, plus the labor, you will find that it costs much less per year of service to protect your structure.

The Dixon Company guarantees all users of this paint that it is made in *first quality* only. The rise in cost of labor and material has been no temptation to the Dixon Company to lessen the quality of its product. Furthermore, the Dixon Company has one great advantage over other paint manufacturers,—its pigment is Nature's mixture of the flake silica-graphite, known as "Dixon's Ticonderoga." There is no pigment equal to it in resisting the attacks of dampness, gases, acids, alkalies, and other rust-producing agencies.

New Triumphs for Dixon's

WE have received a telegram from Mr. J. Alex Sloan as follows:

"Art Klein and Sig Haugdahl, driving racing cars lubricated with Dixon's Graphite Lubricants, won three out of four races at the Fourth Annual Auto Race Meet of the North Dakota State Fair. Haugdahl lowered track record held by Disbrow."

Another wire dated Aug. 24 advised that Geo. Clark, in his Case and using Dixon's Graphite Lubricants, won the feature event at the opening of the Iowa State Fair at Des Moines. A new world's record of 29.43½ for the fifty-lap event clipped 14 seconds from the old record.

Still another wire dated Sept. 6 advised that every winning car at the two auto race meets held at the Michigan and Minnesota State Fairs was lubricated with Dixon's Graphite Lubricants. Fred Horey, driving a Fiat, lowered both the one and two mile records held by Barney Oldfield.

All three of these wires tell plainly why practically all the racing drivers use Dixon's Graphite Automobile Lubricants. They minimize friction. What Dixon's will do for these drivers it will do for you whether you drive for pleasure or business.

Stop that Squeak!

A SQUEAK is one of the most annoying and most elusive troubles to which a car is subject. Usually it is located in the springs, and so they must be oiled. Jack up the frame, taking the load off the springs. Pry the leaves apart and apply DIXON'S GRAPHITE GREASE by means of a knife or thin stick, as most of the squeaks come at the tips of the springs. This treatment usually stops the noise.

Of course, the spring clips holding the ends of the leaves together must be removed. On some springs a piece of metal is folded round two leaves while it is red hot. This makes it difficult to put oil between them.

A useful trick is to place the graphite grease in an oil can and set it over a hot flame. When melted the grease is squirted in between the leaves, especially the part close to the bolts that hold them to the axle. As squeaks frequently come from this part, this is especially recommended. It puts graphite grease into places which it could not reach otherwise.

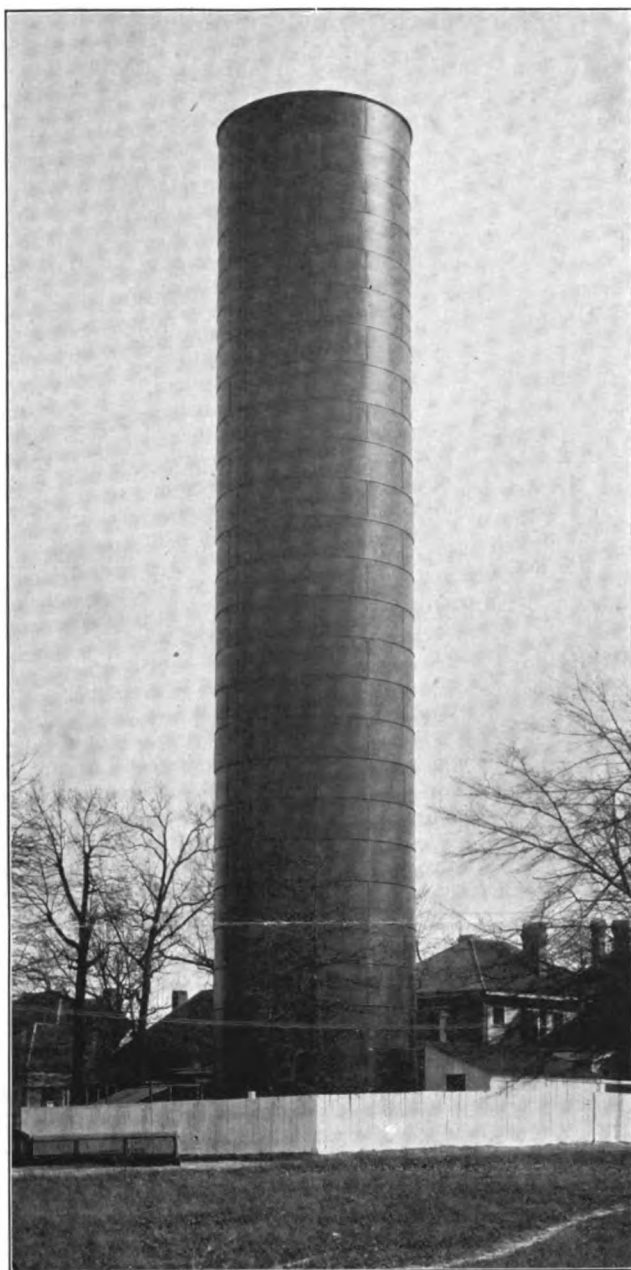
But squeaks do not always come from the springs. After spending enough time on them, take an oil gun and squirt oil wherever two metal surfaces come together—hood and radiator, or dash, fenders, running-board, brackets, or anywhere else. Squirt it in with plenty of force, and you will probably stop it.

Blue-prints Direct from Tracing Paper

ARE you too rushed to prepare india ink tracings on cloth of your penciled drawings? Try this:

Paint the back of the tracing paper containing a drawing made with Dixon's ELDORADO—"the master drawing pencil"—with cocoanut oil, using an ordinary paint brush. Keep the side bearing the design free from oil so that alterations may be made if required. Wipe the oiled surface clean and hang the drawing up to dry.

You will find that from the ELDORADO-penciled design on tracing paper so treated clear, sharp blue-prints can be readily made.—*American Machinist.*



**Standpipe, Paris Mountain Water Company,
Greenville, S. C., Painted with Two Coats
of Dixon's Silica-Graphite Paint**

**Mr. Joseph V. Siler, Contracting Painter,
Philadelphia, Pa.**

THIS is one of many standpipes painted with Dixon's Silica-Graphite Paint, because records show it withstands dampness and wear, does not affect potable water, keeps a neat appearance and protects for the longest period. This obviates the necessity of frequent repainting and saves the owner in cost of labor and material. It is the "longest-service" paint.

Our Paint Department will be glad to correspond with you regarding your paint requirements.

Dixon Men in Service

Leman Phelan, Atlanta District Office, 1st Lieutenant, Infantry.
 Harold V. Callanan, Crucible Sales Department, 2d Lieutenant, Infantry.
 D. M. Walden, Atlanta District Office, 2d Lieutenant, Artillery.
 Frederick Altz, Color and Lead Works, Sergeant, 4th Regiment, New Jersey Infantry.
 William Cassey, Accounting Department, Corporal, 1st New Jersey Signal Corps.
 William McFadden, Crucible Sales Department, Corporal, New Jersey Engineer Corps.
 John Le Place, Cost Accounting Department, Corporal, 4th New Jersey Infantry.
 Joseph Whitley, Cost Accounting Department, Musician, 4th New Jersey Infantry.
 George Muttart, Shipping Department, 1st New Jersey Signal Corps.
 Herman Shonfelder, Crucible Works, Battery C, 13th Field Artillery.
 Alex. Pesta, Crucible Works, United States Regulars.
 George Brown, Crucible Works, 4th New Jersey Infantry.
 William Cordes, Crucible Works, 4th New Jersey Infantry.
 Charles Evans, Crucible Works, 4th New Jersey Infantry.
 Bieny Wickiello, Crucible Works, 4th New Jersey Infantry.
 William J. Ward, Crucible Works, 4th New Jersey Infantry.
 Charles Phillips, Grease Works, 4th New Jersey Infantry.
 G. V. Barry, Auto Lubricant Sales Department, Officer Training Camp, Fort Sheridan, Illinois.
 J. N. Gibbs, Auto Lubricant Sales Department, New York Naval Militia.
 Harvey M. Ragan, Lubricant Sales Department, United States Navy.
 H. P. Smith, Lubricant Sales Department, Officers' Training Camp, Fort Meyer.
 Louis Arnold, Driver, 4th New Jersey Infantry.
 Henry Kreush, Driver, 4th New Jersey Infantry.
 John Conklin, Driver, 4th New Jersey Infantry.
 William Kennell, Driver, 4th New Jersey Infantry.
 Harry W. Armstrong, Crucible Sales Department, United States National Army.
 John Nuatka, Color and Lead Works, United States National Army.

In addition to the above, Frank Atkinson, Shipping Department, served with the 4th New Jersey Infantry at the Mexican border but was not accepted on account of progressive eye trouble, and Herbert Rommelt, Shipping Department, 1st New Jersey Signal Corps, was exempted for the same reason.

The Chemical Element, Carbon

KNOWLEDGE tells us that when vegetable or animal materials are heated with a limited access of air, the result is that they are charred. Materials differing in almost every respect, except in their being formed in the processes of animal or plant life, agree in this—that when treated as above described they yield a char. The word *carbo*, formed from the same root, appears to have been used in the Augustan Age in the same sense, namely, to designate the char left by the partial burning of animal and vegetable bodies. It was usually applied to the char obtained from wood or wood charcoal. In the more modern

use of the Latin tongue, *carbo* generally means coal, the vegetable origin of which is readily recognized.

There are three well-known forms of carbon—charcoal, the diamond and graphite. Previous to the year 1800, the mineral plumbago, or graphite, was regarded as identical with molybdenum (a metallic sulphide), the appearance of each being similar, and both possessing the property of marking paper with a black streak, whence the name graphite (*grapho*, to write). It was shown, however, by Mackenzie, that graphite burns with formation of carbonic acid, the amount formed from a given weight of the material being the same in the case of charcoal and of diamond. Hence we now have three forms of carbon—charcoal, diamond and graphite.

These three substances differ in certain important physical characters. The specific gravities are different, diamond standing highest in the list and charcoal lowest. Diamond crystallizes in the regular or cubic system, graphite in the hexagonal system, while charcoal has no crystalline form or structure.

They differ in other ways. The diamond burns at a much higher temperature than charcoal. In other words, the chemical relations of diamond and of charcoal with respect to oxygen are by no means identical.

If a school boy were to write a composition, taking for his subject carbon, he would begin by pointing out how widely different are the substances, diamond, graphite and charcoal, and would wind up his essay by saying that, notwithstanding these differences, "they are really the same thing—carbon."

The Eraser on Your Pencil

NEVER to make a mistake is never to accomplish anything worth while.

The eraser on your pencil typifies accomplishment. It admits that you are fallible, but being only one twenty-eighth the length of the lead, indicates that your margin of hits is pretty good. This applies to grown-ups, naturally.

Dixon pencils designed especially for the young, such as "Beginners," encourage care in making a start in life by offering no suggestion of a chance to begin over again. This applies even to pencils for those beyond the elementary school age: Dixon's "High School," for instance, is plain end.

Being full-grown, there is an "eraser" on our business. No one of our good friends, whether in the field of crucibles, pencils, lubricants, or paints, but can—if he ever had occasion to ask—bear witness that we were as quick to use the "eraser" of adjustment as the "lead" of our business pencil.

If by any chance, in these days of difficulty as to labor, materials, and delivery, you who read this should have anything on your mind where you think we are at fault—just tell us.

An Engineer's Occupation

is largely to deal with trouble, either directly, to overcome it, or by due preparation, to avoid it, as this country should have done regarding war.

The above is well put and timely. Due preparation to avoid trouble is to properly paint all exposed metal and wooden surfaces with Dixon's Silica-Graphite Paint, which is used and recommended by engineers and superintendents who have had large experience in protective painting.

Name of Manufacturer means more than Formula on Label

ACCORDING to *Printer's Ink* the "Pure Paint Bill," introduced in Congress, brought out interesting argument, *pro* and *con*. What does the public want in the way of information on the label of goods it buys? Is the name of the manufacturer and his trade-mark sufficient guarantee, or does the purchaser need the added protection that might be afforded by a formula showing the composition of the contents?

Mr. G. B. Heckel, Secretary of the Paint Manufacturers' Association, claimed "that the formula label sets up a false and misleading standard of quality." He said further: "I claim that it is perfectly possible to have two formulæ on paint cans—both truthful—duplicate in every respect, and that the paint in the can shall be in the one case very bad and in the other case very good. The name of the manufacturer on a label and the reputation of the manufacturer of the goods is of a great deal more importance than a chemical analysis placarded on a label. It implies not certain ingredients purchased haphazardly and put together haphazardly, but it implies an organization that knows how to do it and has obtained a reputation by doing it properly." We certainly agree with the statements made by Mr. Heckel.

The United States Government has asked us and large corporations have asked us to give them the formula and an exact analysis of Dixon's Silica-Graphite Paint in order that they might have open bids for their supplies of silica-graphite paint.

We have advised all such inquirers that we are very glad to give an exact analysis and the formula, but that Dixon's pigment, silica-graphite, is peculiar in that it is not a mixture of silica and graphite, nor is it alone a silica and graphite. It is a unique and peculiar formation found only, so far as we know, in the Ticonderoga district of New York State, and is mined and prepared, so far as we know, only by the Joseph Dixon Crucible Company. It is not a mechanical mixture of silica and graphite. It is a formation made by Nature herself and to a very large degree the silica and the minute flakes of graphite are united together, and while chemically and mechanically other silica-graphite paints could be made, they would not have the peculiar formation nor the long life and endurance possessed by Dixon's Silica-Graphite Paint.

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THE manufacturer should know his business. Mr. Edward N. Hurley in "Awakening of Business" tells us that there is no one remedy that will give relief to all business ills and problems. What will help one industry will kill another, but there are a few fundamental principles. Success in business depends upon the intelligence of the individual manufacturer. If he does not understand both the details and the broad aspects of the industry of which he is the head, he cannot expect to be successful.

American business men do not realize the value which trade journals and technical magazines may be to them in increasing the efficiency of their factories and in giving them a broad view of their business.

Our foreign competitors read almost every article published upon their business with great care and thoroughness. Many of them have duplicate copies of their favorite trade papers sent to their homes so that they may read them when away from their business without being disturbed.

The Difference as to Who Makes the Mistake

WHEN a PLUMBER makes a mistake, he charges twice for it.

When a LAWYER makes a mistake, it's just what he wanted, because he has a chance to try the case all over again.

When a CARPENTER makes a mistake, it's just what he expected, because chances are ten to one that he never learned his trade.

When a DOCTOR makes a mistake, he buries it.

When a JUDGE makes a mistake, it becomes the law of the land.

When a PREACHER makes a mistake, nobody knows the difference.

When an ELECTRICIAN makes a mistake, he blames it on induction; nobody knows what that is.

But, when a CREDIT MAN makes a mistake, Good Night!—*Pittsburgh Credit Bulletin.*

Thunder at Sea

SOME investigations have been made relative to the audibility of thunder at sea. During the course of the voyage from Alaska to New Zealand, Captain Ault, sailing master of the *Carnegie*, observed lightning storms or displays on twenty-two different occasions, but these storms were accompanied by thunder on only six occasions. In these six cases the distance of the nearest land was from fifty to six hundred miles. In all cases, however, where streak lightning was seen, thunder was also heard. The other cases were sheet lightning. Captain Ault observed lightning without thunder several times in calm weather. In one case in which several claps of thunder were heard, the successive intervals between flash and clap showed that the storm became inaudible when its distance exceeded five miles from the ship.

◆ ◆ ◆

EDWARD N. HURLEY tells us that it has been estimated that 90% of the manufacturers and merchants in Germany know absolutely what their goods cost to manufacture and sell, while only 10% of our manufacturers and merchants know what it costs to manufacture and sell their products. That is one answer as to why Germany has been successful in developing such a high standard of efficiency.

A Boost for "Best White"

REPLYING to your letter of 10th inst. would say that I have found your 'Best White' Pencil No. 352 very useful in making crayon layouts, etc. In my practice I have found a very effective means of presenting a sketch is to render it almost entirely in different colored crayons, using as a background a French gray charcoal paper or, in fact, an ordinary craftsman brown paper.

"Up until the time that I have used your 'Best White' pencil, it was necessary to make a combination sketch using Alberene or Chinese White for the voids that were to be covered with a white surface. The wax crayon did not produce the result, but I seem to be able to obtain just the results that I wish with your No. 352. It has the advantage of spreading smoothly without grit and does not rub or smudge. Of course the pencil has the added advantages which you have already enumerated in your letters.

"In concluding, would say that I consider it equal to the — Crayon which I purchased some years ago abroad."

How Do You Figure?

DO you divide the years of service into the cost of paint, plus the cost of labor? If so, you have the correct method of figuring the yearly cost of paint protection.

If you have metal surfaces or any exposed surfaces, whether of metal or wood, to repaint, it will be worth your while to purchase Dixon's Silica-Graphite Paint because the longer service and better quality of Dixon's Paint are worth a great deal more than a few cents per gallon.

The careful and cautious user of paint will appreciate this fact. For over fifty years the slogan and standard of the Dixon Company in the matter of paint has been "the *best* and *one grade* only." If any one is looking for a low-priced paint and does not care about quality and long service, the Dixon Company has nothing for him; but if he desires quality and long service, Dixon's Silica-Graphite Paint is the best for him.

We are ready at all times to give detailed information, price and assistance in any way. Please write us and watch Dixon's house organ GRAPHITE for long service records.

The Litany of the Trenches

OF two things one is certain: either you're mobilized or you're not mobilized. If you're not mobilized, there's no need to worry. If you're mobilized, of two things one is certain: either you're behind the lines or you're on the front. If you're behind the lines there is no need to worry; if you're on the front, of two things one is certain: either you're resting in a safe place or you're exposed to danger. If you're resting in a safe place there is no need to worry; if you're exposed to danger, of two things one is certain: either you're wounded or you're not wounded. If you're not wounded, there is no need to worry; if you are wounded, of two things one is certain: either you're wounded seriously or you're wounded slightly. If you're wounded slightly, there is no need to worry; if you're wounded seriously, of two things one is certain: either you recover or you die. If you recover there is no need to worry; if you die you can't worry.

—*Quoted in North American.*

Tush! Would You Exterminate the Human Race?

WRITE it down in flaming letters, Fashion it as slug or stencil: TO BE SHOT AT SUNRISE she who

Writes, "Excuse my using pencil."

—*J. W. G. in the N. Y. Tribune.*

War Mortality

ACCORDING to Mr. Babson, while it is very difficult to secure reliable figures, yet it is understood that about sixty men per thousand are being killed, and about 150 men out of each thousand are wounded, although most of these wounded return again to the trenches. This percentage of casualties is not high. Of course it cannot be compared with the normal death rate in peace times, which is about eight per thousand for the ages of the men at the front. The normal death rate of eight, however, is an annual figure, while the figure sixty, above given, applies from the date of enlistment, which in some cases has been three years. The great loss of previous wars has been from disease. This has been very largely eliminated. Some claim that a man at the front to-day is less liable to disease than if at home working in a city.

Graphite Bouquets

"YOUR September GRAPHITE has just arrived in the Distribution Office and has, as usual, been read with pleasure. We are users of Dixon's Graphite Pencils, Dixon's Transmission Graphite Grease, and Dixon's Stack Paint. These productions have so far given perfect satisfaction."—*Frank A. Ray, Distribution Clerk, Savannah Gas Co.*

"WE receive GRAPHITE and look forward to its arrival with more interest than any magazine on the market."—*F. J. Riley, Augusta, Ga.*

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"PLEASE accept my congratulations which are due you in recognition of your having given to the business world an indelible pencil really better, in my opinion, than the 'Popular.' I refer to your No. 2064. The handwriting on the wall visibly reads, 'The U. S. banishes Austrian Mephisto.'"

— *C. L. Leacrist.*

A Boost for No. 494 "Black Lumber"

SOME time ago I got hold of an octagonal piece of black marking crayon or lumber pencil which was marked Dixon's Crucible Graphite. It was an excellent thing for marking stakes—much better than the kiel usually furnished for that purpose. It was quite hard and there are marks on stakes made by it six years ago. Most kiel lasts about a month to six months. I would be glad to know where I can get some more."—*B. G. Warner, City Eng., Pecos, Texas.*

No. 2072 and No. 400 in Railroading

MANY thanks for the two test pencils, Copying No. 2072 and Large Black No. 400.

"Just a word of comment on No. 2072. Will say it is one, if not the best, copying pencil I have ever used for making impression copies, and is A-No. 1 for making Keystone Switching Orders. The No. 400 is the best pencil for writing out car cards that have to stand weather conditions of all kinds. Have used the No. 400 in outside carding extensively since received and find for it all that claimed, and just a little more than claimed."—*Geo. W. Noland.*

GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"I HAVE used the samples of 'ELDORADO' drawing pencils which you sent me some time ago and have found them very satisfactory."

"REPLYING to yours of August 4, the pencils received were satisfactory, and we will arrange to specify these when ordering in the future."

"IN response to your recent request, asking us as to the 'ELDORADO' pencils, samples of which you recently sent us, we beg to advise that we have frequently used these pencils in our Drafting Department and at present have some of them in stock. We find them entirely satisfactory and shall continue to use them."

"IN reply to yours of the 16th inst., wish to say that we received the samples and find them to be very satisfactory. I consider them in a class with the —."

"REPLYING to yours of July 30th, would say that the sample drawing pencils which I received are very satisfactory. I expect to use them regularly in my office."

"REPLYING to yours of the 20th inst., learn from our Mr. Anderson that your pencils are giving entire satisfaction and delightfully so, since even in so short a time in our use we have found them to be the best pencil we have ever used. When Mr. Anderson, who has this entire matter in charge, needs a new supply, he states that he will certainly order the 'ELDORADO.' We thank you for your kindness."

"WE wish to acknowledge yours of the 19th enclosing sample of your No. 352 'Best White' Pencil. This sample has been submitted to our Art Department, who reported it very satisfactory

indeed, and when on the market for this grade pencil in the future we will specify this number. Thanking you for the sample furnished, we remain."

"REPLYING to your letter of July 5th, we wish to advise you that we have used up several of the sample pencils you sent us free of charge and assure you that we like the pencils very much. We have inquired from the people who furnish us with drawing supplies whether they carry these pencils in stock; they have informed us that they do and assure you that whenever we need any pencils we will kindly place an order for some of your make pencils. We wish to advise in reference to your Dixon BEST WHITE No. 352. We have used these for several years and have found them to be very satisfactory. Thanking you very much for these samples, we remain."

"WE have found the samples of drawing pencils recently sent us very satisfactory in every respect and have specified your pencils on all our orders to —, from whom we buy our supplies."

"WE have your favor of July 30th, regarding 'ELDORADO' and 'BEST WHITE' pencils and desire to advise that our large stock of another brand will, at least for some time to come, prevent replenishment. It is, however, our intention to specify your pencils when placing a new order."

"I RECEIVED the samples of pencils sent me and am more than pleased with them. I deal with — and with —. Thanking you for bringing the matter to my attention, I am."

"WE have tried out your samples of lead pencils which you sent us and have placed our first order with the — Company of this city, as we find the Eldorado Pencil equal to the —."

"WE are in receipt of your sample 'Eldorado' Pencils and replying to your letter of recent date will say that our Stenographic Department has found these pencils entirely satisfactory. We have instructed our Purchasing Department to specify 'Eldorado' Pencils in our next order for supplies."

THE *Tribune* "Tower" says: "Life is pretty much a fifty-fifty proposition, isn't it? You have got to give something to get something—and the giving isn't always a matter of dollars."

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No. 11

Geology

Graphite

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NOV 18 1917

VOL. XIX

NOVEMBER, 1917

No. 11



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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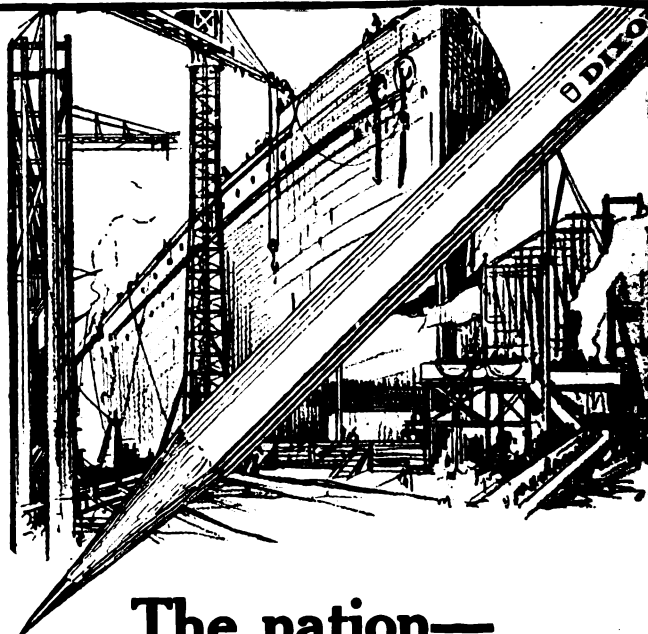
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The nation— the vessel— the pencil

The very existence of the nation depends upon its vessels—war ships and merchant marines.

The efficiency of those vessels depends first of all upon the drafted plan—the pencil.

DIXON'S ELDORADO

"the master drawing pencil"

is the pencil of big things. It means quick work because the leads hold their points longer and stand unusual pressure without breaking. It means reliable work because the leads are smooth, gritless—true to grade in each of the 17 degrees.

Write us on your letter head for full-length samples of your favorite degrees.

JOSEPH DIXON CRUCIBLE COMPANY

Dept. 190-J, Jersey City, N. J.

DIXON'S BEST WHITE N° 352
writes white on blueprints





Buying Made Safe and Easy

How Advertising Saves and Protects the Buying Public

DOES the average person ever stop to think what a safe and easy thing buying has become in our day? What a contrast to the way it used to be within the memory of most of us?

This applies to all buying—of necessities, of luxuries, of everything.

Mr. John Sullivan, Secretary of the Association of National Advertisers, in a recent interview said some things on this subject which should interest every buyer in the world. For his words apply to the purchase of anything, from a 5-cent cake of soap up to the most expensive advertised article.

"To-day," said Mr. Sullivan, "the housewife sends her little child to make purchases at the corner grocery. She sends her with perfect confidence that, even though a child, she cannot err therein. All that the child needs is explicit instructions to buy **THIS** or **THAT**. In the case of all staple produce the price is known, the quality is known and the **NAME** is known. There is practically nothing about the goods that is unknown. And to be sure of getting exactly what you want, it is only necessary to name the goods.

"It is the same in other stores of nearly every kind.

"What a contrast to the days of our fathers, when virtually all buying was a hazard—impossible for the child and risky even for the parents!

"In those so-called 'good old days,' soap was just soap, prunes were just prunes, coffee was coffee—and so on through the long list of things that are used in every home.

"In no case was there any guarantee of quality, or any sure way to identify goods that had proved satisfactory so that the same goods could be bought again. The whole buying game was just a game—a game and a gamble, with all the odds against the buyer.

"Then gradually, step by step, came the great change. The **TRADE-MARK** began to appear—a positive means of identifying goods. And with the trade-mark came **ADVERTISING** on a national scale—the best, the surest, the cheapest, the only efficient way of making the merits of these goods known to buyers everywhere.

"Trade-marked merchandise was soon found to be good merchandise, worthy of every buyer's confidence.

"In fact, trade-marked articles have got to be good. The trade-mark identifies them, advertising proclaims them, and use by thousands and millions makes their qualities positively

known. Only first-class merchandise can dare to court such a test. A well-known trade-mark is an asset of priceless value for a good article, but it would be sure death for a poor one, for in that case it would be not a guarantee but a **WARNING** to the buyer. It would help him to identify the bad as well as the good; to avoid the one and choose the other.

"The greatest achievement of modern advertising is that for the first time in the history of the world's merchandising it protects the buyer; it makes buying both easy and safe. The value of every trade-mark depends on the good-will of the buyer; therefore this trade-mark, which positively identifies the goods, for better or for worse, is the buyer's sure and certain guarantee."

The Day Has Come

THERE are, it may be, many months of fiery trial and sacrifice ahead of us. It is a fearful thing to lead this great, peaceful people into war, into the most terrible and disastrous of all wars, civilization itself seeming to be in the balance. But the right is more precious than peace, and we shall fight for the things which we have always carried nearest our hearts—for democracy, for the right of those who submit to authority to have a voice in their own governments, for the rights and liberties of small nations, for a universal dominion of right by such a concert of free peoples as shall bring peace and safety to all nations and make the world itself at last free. To such a task we can dedicate our lives and our fortunes, everything that we are and everything that we have, with the pride of those who know that the day has come when America is privileged to spend her blood and her might for the principles that gave her birth and happiness and the peace which she has treasured. God helping her, she can do no other."—*Woodrow Wilson*.

Child Labor Law

WE do hereby guarantee that Dixon's Lead Pencils and our other graphite products are manufactured in strict accordance with the Act of the U. S. Government entitled "An Act to prevent interstate commerce in the products of Child Labor, and for other purposes," approved September 1, 1916, and in effect September 1, 1917.



Hotel Bretton Hall
New York City

Joseph Dixon Crucible Co.
Pencil Dept.
Jersey City

Dear Sirs:

Thank you for the samples
of "The Eldorado." As a matter
of fact I have used them
for some time past - I have
found them way ahead of
anything in the pencil line,
especially the softer grades
which are exceedingly good
for quick sketching.
Very truly
W. E. Hill

From the famous New York Tribune Artist

"If This be Smoke, Give Me Gas"

THIS is what some of us might say when we inhale the odor of some cigars smoked by our friends, but the above is what the *Chicago Tribune* says of the cigars that the Sammys are obliged to smoke in France.

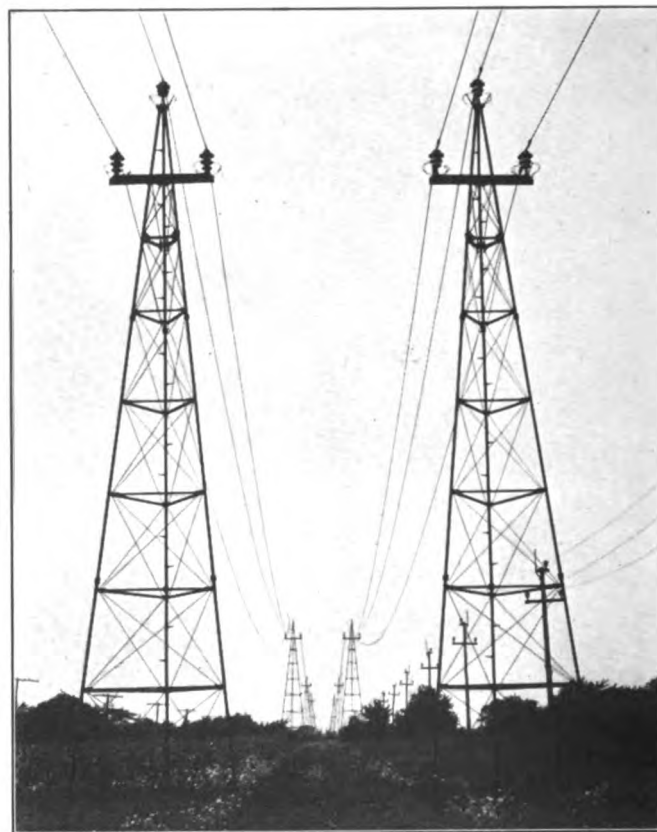
Sammy can drink French drinks and flirt French flirtations, but smoke French smokes he cannot.

It is not French taste that makes French smoke so devilish. It is the French government. For in France the government runs the tobacco business and in that way levies "contributions indirect." France has other government monopolies. If you carry a pail of water away from the ocean, some official holds you up and reminds you that the French government monopolizes the salt business. When not one match in five will ignite it is because the Third Republic monopolizes the match business. Such monopolies prevent tax dodging. They gather in the very last copper they set out to. But when they deprave smoke it is a dark day indeed for François and for Sammy.

A good cigar comes incredibly high. A cheap cigar smells to heaven. Tabac (pronounced "tabah") looks like hair, feels like hay and tastes like a bonfire.

♦ ♦ ♦

EVER notice how easy it is for a man to be good-natured when everything is coming his way?—*Woodworkers' Record*.



Electric Towers,
Niagara, Lockport & Ontario Power Co.,
Buffalo, N. Y.

THE hydro-electric development in the Niagara Falls and Buffalo District is one of the world's wonders.

This striking photograph illustrates excellently the great transmission system.

The towers illustrated are painted with Dixon's Silica-Graphite Paint.

Efficient officials like Mr. F. C. Landers, Manager, and Mr. H. E. Nichols, Purchasing Agent of this system, would not specify and use Dixon's Silica-Graphite Paint if it did not live up to our claim: "Best quality only; longest service; lowest yearly cost."

Street and steam railroads, power concerns, etc., throughout the world specify and use Dixon's Silica-Graphite Paint because it is the "old reliable." We have won our friends during 50 years and more of unbroken standard service in meeting protective paint requirements, which is an unusual guarantee.

Do We Realize?

DO we realize the truth of what is put before us in print and speech? That what stands between Germany and the United States to-day is England's Navy? To-day England keeps us in safety and makes it possible for us to run our factories. Dr. Hillis tells us that on one side of the American silver dollar you can read these words, "In God We Trust." On the other side we had better stamp these words, "And in England's Navy."

Dr. Hillis also says every thoughtful man knows that the time has already come for the people of this country to take their stand by conversation in the household, in the street cars, and by spoken words in the factory and in the shop, and wherever men go pressure must be brought to bear along this line.

A little pamphlet issued by the National Association of Manufacturers of the United States of America, 30 Church Street, New York, bearing the title "The Republic—Worth Living For, Worth Dying For," by the Rev. Newell Dwight Hillis, D.D., is well worth sending for and reading many times over. It is the address delivered at the Twenty-second Annual Convention of the National Association of Manufacturers, New York City, May 15, 1917. It is not merely an inspiring and wonderful address, it is the summing up of history that many of us have forgotten if we ever knew. It is especially important in the fact that at the present time we need ten-talent men. We are told that "when you want a man to build a flying machine you do not go to a skilled orator; you go to a man who is able to invent an aeroplane." We are also told, "But when you want to spend two billion dollars for the Navy you go to an editor from the South; when you have three billion dollars more for another army of the National Defense you go to another man who has had no experience whatever in war. Instead of taking your ten-talent men you select two-talent men for such gigantic tasks. The simple fact is that we have some splendid second-class men down in Washington and also a few first-class men down in Washington, but in a crisis like this all our men ought to be first-class men in ability."



THE above shows Eddie Rickenbacher, racing driver. This was sent to our Mr. A. G. Thomson from France.

Eddie is now a sergeant in the Signal Corps and is taking up flying. We understand that he soon expects to fly and receive a commission.

No doubt he will specify for his flyer Dixon's Graphite Automobile Lubricants, as he always did for his racing cars.

Growing Old

MAN is said to be as old as his arteries, and a motor-car is as old as its bearings. A car with badly worn bearings is an old car, even though it may have traveled less than 10,000 miles, whereas one which has seen 100,000 miles of use and still has its bearings in good condition is, comparatively speaking, a new machine.

If high living, excessive hard work, and worry harden and weaken a man's arteries, so friction and wear, due to speed and heavy loads, destroy the usefulness of the bearings of an automobile.

The undue wearing of a bearing may be lessened and even stopped by the use of Dixon's Flake Graphite. The thin flakes of graphite build up the microscopical irregu-

larities of the bearing surfaces so that there is a graphite to graphite contact instead of a metal to metal contact. With a veneer-like coating of graphite on the bearings the oil or grease used is far more efficient and the life of the car greatly prolonged.

◆ ◆ ◆

"WHY this exaggerated sense of thine importance when a little ptomaine in thy cheese can poison the source of thy lofty contemplations? Why this inflated conception of thy Me, when an infusion of poppy-seeds might lull it to sleep, even to stupefaction? Why take thyself so seriously when a leaf of henbane, taken by mistake in thy salad, can destroy thee?"—*Exchange*.

Our Cover—How Dixon's Helped Chevrolet

A HOT pace was set by Louis Chevrolet when he drove his Dixon-lubricated Frontenac flyer around the hundred-mile Harkness Cup course at the Sheepshead Bay track on September 23d. Before 40,000 spectators he sped over the course in 54 minutes and 20 seconds, making the distance in 2 minutes and 30 seconds less than the daredevil Dario Resta, another Dixon disciple, had previously covered it.

The famous French upholder of the Frontenac colors took the lead in the first five miles, and except for a short interval, was never headed. One of the things which helped him win the race was, naturally, his immunity from trouble. Old Man Friction always has a front seat at the big speed tournaments and is one of the most troublesome jinxes that must be headed off by the driver who would be successful. Not only must the winner in such close competition have great skill as a driver but he must also be far-sighted enough to be prepared to discount trouble. It was far-sightedness more than fortune that helped Chevrolet win out, for he had been far-sighted enough to choose the lubricants he knew he could depend on—Dixon's Graphite Automobile Lubricants.

His past experience and the record of scores of other noted racing drivers were recommendation enough to Chevrolet. So it should be to every driver—professionals, pleasure drivers, or those who use motor-cars as a business aid.

◆ ◆ ◆

THE phrase "Psychological Moment," so freely used sometime ago, and by many who had no real idea of its meaning, and now largely in the discard, was followed by "Efficiency." As that term is now overworked and dodged by those who are its professors, we have "Service," "Coordination" and "Reaction." The gentlemen who make large play of such phrases remind us of the authors who live at the Mills Hotels and write "How to Succeed in Wall Street."

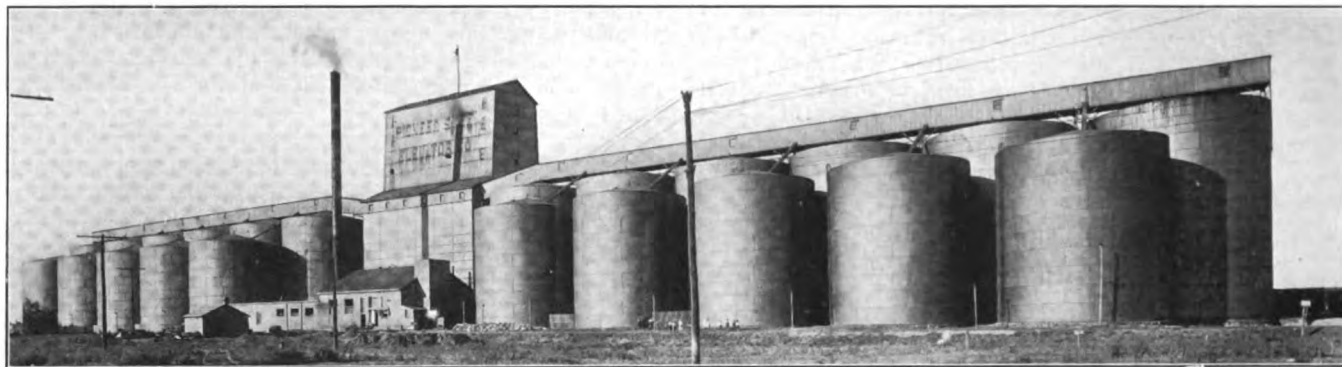
THE Philippine Islands are much larger than is generally supposed. They are 1,200 miles long and 600 miles wide and contain nine million people. Almost all of the younger population now speak English. The islands are wonderfully fertile and are capable of raising splendid crops. The people are rapidly passing from a state of savagery to one of civilization.

Worried for Them

FIRST Tommy, waiting to snipe a German patrol, to his pal: "They'd ought to been 'ere afore now, Joe. I do 'ope as nothink's 'appened to 'em."—*Wroe's Writings*.

◆ ◆ ◆

DON'T tell all you know. Keep a little for seed.—*Woodworkers' Record*.



Grain Elevator and Steel Tanks, Pioneer Steel Elevator Company, Minneapolis, Minn.

THERE is a real, dominant, economical reason why the Pioneer Steel Elevator Company of Minneapolis, Minn., painted their elevator with Dixon's Silica-Graphite Paint. It was the same good reason that has caused other grain elevators to be painted with the same paint.

The elevator shown in the above illustration was painted in 1912, and it has not been found necessary as yet to repaint. This year the Pioneer Steel Elevator Company decided to use the same paint on their steel tanks, which are also shown in the above illustration.

The Pioneer Steel Elevator Company, in figuring the cost of paint, decided that the only correct way was to determine the number of years of service and divide same into the price of the paint, plus labor. By this method they have discovered that Dixon's Paint is the lowest cost paint for exposed surfaces per year of service.

With the continued rise in cost of material, there is a great temptation to use inferior pigment and vehicle and less care in manufacturing. As the Dixon Company has made a most enviable reputation with Dixon's Silica-Graphite Paint, and has always made it in **FIRST QUALITY** only, it is a satisfaction to the Dixon Company, as it will be to the user of paint, to know that no matter how high the cost of raw materials may go, the Dixon Company will not use any pigment other than its unrivaled flake silica-graphite and the best boiled linseed oil obtainable. No other vehicle is made use of by us.

The Temperature of Health

TEMPERATURES of the body and the surrounding atmosphere must be kept in their proper relation if the health of the individual is to be preserved. Man's knowledge of the relation of temperature and health is aided by his ability to employ artificial means to indicate when these two are out of harmony.

Health, comfort, life itself, is so dependent upon temperature that the origin and meaning of temperature, its significance under different conditions, and its importance and place in modern efficiency should be taught in every school and thoroughly understood in every home.

In health, the human body should not vary more than one degree of temperature from 98.6° Fahrenheit. This temperature has been designated from millions of observations of healthful persons as the standard of health, or "normal temperature"; but, inasmuch as it is determined from averages, one need not be alarmed if his individual temperature be a part of a degree above or below this "normal" point. Many persons in perfect health do vary slightly from

this average, but not sufficiently to affect the uniformity of the rule.

In general, it may be said that the heat of the body is derived from combustion of the body tissues in the process of nutrition and repair, the same as a furnace is heated by the burning of coal. The loss of bodily heat occurs in many ways, as by the skin, the air passages, the lungs, and the excretions; but as 85 to 90 per cent. of the total output of heat is by way of the skin, this tissue is by far the most important factor to be considered in the process of diminishing or increasing the loss of heat.

The above is from a little pamphlet entitled "Temperature," issued by the Taylor Instrument Companies, Rochester, N. Y.

Educational Progress

AS an instance of the manner in which educational institutions keep abreast with the chariot of Progress we cite the case of a large school in Philadelphia.

The power plant of this school is equipped with three 18" x 30" McIntosh and Seymour engines, 165 R.P.M. Each of these engines is fitted with a Harris Graphite Cylinder Lubricator, feeding six ounces of Dixon's Flake Graphite per month. In addition to the graphite, the engines are supplied with two drops of oil per minute. A barrel of cylinder oil of about fifty gallons was purchased in June, 1915, and on February 1, 1917, twenty-six gallons were left. This oil had been used to lubricate the three engines mentioned above, two boiler feed pumps, two house pumps, two blow-off pumps, one air pump and three pumps in another building. In other words, less than one-half barrel of cylinder oil has been used in nineteen and one-half months.

These figures are accurate and are taken from the records of operation.

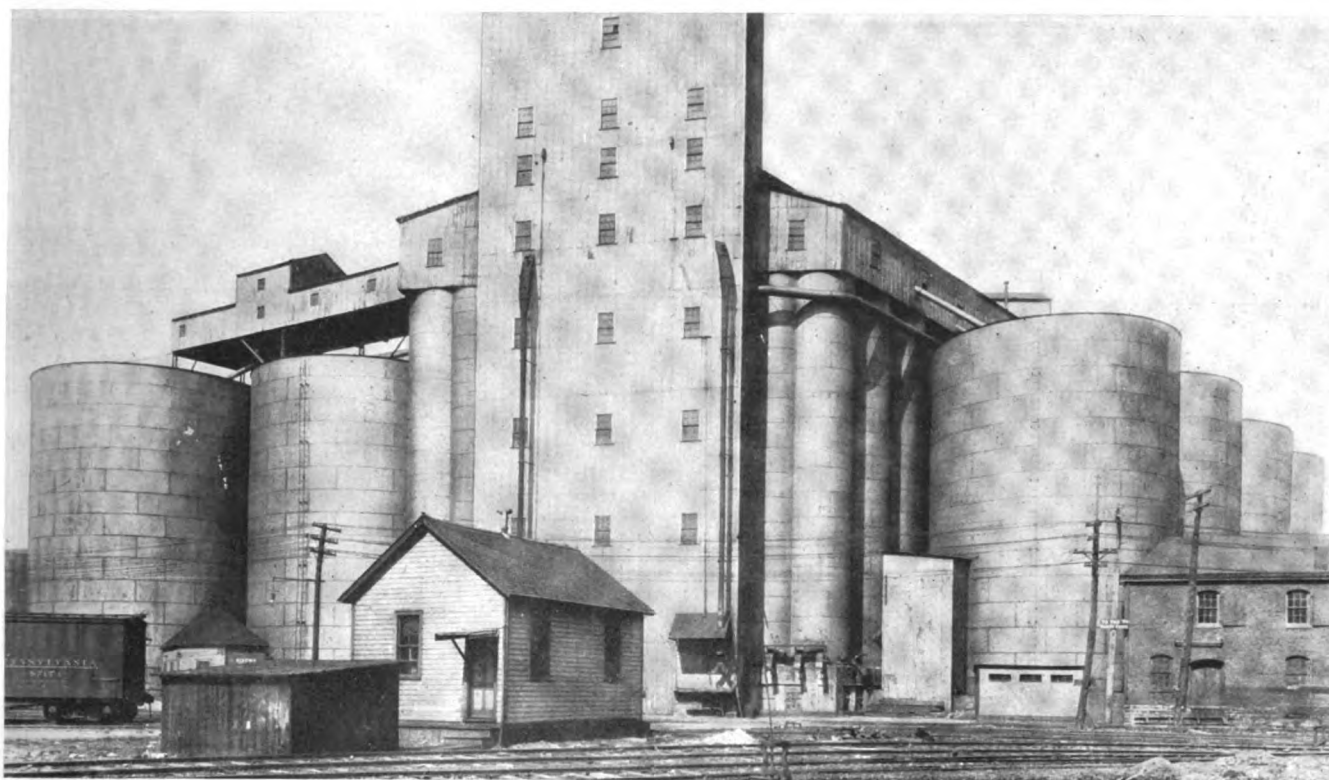
Results of this kind are common and show what can be accomplished by the intelligent use of Flake Graphite as a lubricant. A further indication that this school is following the best practice in mechanical matters is the fact that the boilers are kept clean by means of Dixon's Pioneer Boiler Graphite.

Other Triumphs for Dixon's

IN addition to Dixon's winnings at the recent race at Sheepshead Bay, we have received a wire that Fred Horey, using Dixon's Lubricants, lowered the world's three, four and five mile records for a half-mile track at the Kansas State Fair at Hutchinson, Kansas.

In the race at Providence, R. I., the latter part of September, all the cars were lubricated with Dixon's. Tom Milton won this race.

At Uniontown, during September, Frank Elliott won first place. He, as well as all the other drivers, lubricated his car with Dixon's Graphite Automobile Lubricants.



Great Eastern Elevator, Buffalo, N. Y.

Eleven Years' Paint Service

ELEVATOR owned by the American Linseed Oil Company. Eleven years ago was painted with Dixon's Silica-Graphite Paint and has not been repainted since.

Dixon's Silica-Graphite Paint has given equally good service, if not better service, on other elevators situated in different parts of the country.

On account of the size of such structures the paint is subjected to more severe conditions than when it is used on surfaces better protected from the elements. On elevators the damp grain dust which is deposited on the surfaces is especially conducive to corrosion unless the paint is of the highest possible quality.

If you are interested in a real protective paint and are not familiar with the records of Dixon's Silica-Graphite Paint, we shall consider it a favor if you will ask us for further information.

What Are You Worth?

OF course you may be well worth the salary you are paid or the amount that you make in your business, but what are you worth as a mass of chemicals?

The *Illustrated World* figures it out as follows: If, for instance, you weigh two hundred pounds, there is 58.5 per cent. water, and 41.5 per cent. solids.

If, as we say, you weigh two hundred pounds, about eighty-three pounds are solids. These solids are made up of inorganic chemicals—salts mainly. There are calcium phosphate, potassium chloride, magnesium phosphate, sodium chloride, potash, small quantities of sodium phosphate, sodium carbonate, sodium bicarbonate, sodium sulphate, potassium sulphate, calcium fluoride, calcium carbonate, ammonium chloride, soda, lime, magnesia, ferric oxide, and a small quantity of sulphuric acid, carbon dioxide, silicic acid and ferric phosphate. There are approximately sixty other inorganic substances that have been isolated in traces.

If all of the various things were put on a commercial basis at present ruling prices, a two-hundred-pound man when separated and stored in jars and tanks is worth only \$39.21 to a druggist.

From this any man can determine his approximate value. A one-hundred-pound bantam would bring in approximately \$19.61, and a one-hundred-and-fifty-pounder \$28.40 at the corner drug store.

For further particulars see *Illustrated World* for October.

The Emigrant

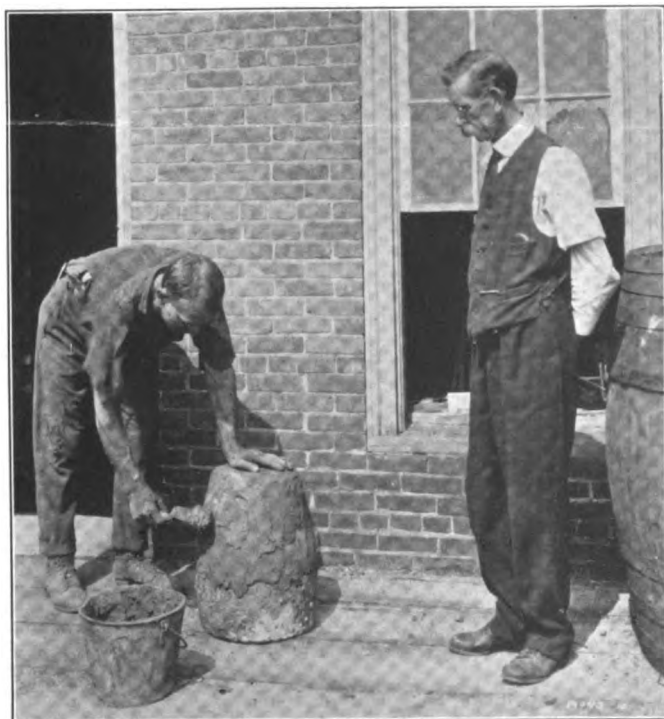
NEITHER poverty, nor oppression, nor both together can drive a man out of his country, unless the soul within him awakes. Indeed, many a misventurous cowering peasant continues to live on bread and olives in his little village, chained by the fear of dying of hunger in a foreign land. Only the brave and daring spirits harken to the voice of discontent within them. They give themselves up to the higher aspirations of the soul, no matter how limited such aspirations may be, regardless of the dangers and hardships of a long sea voyage, and the precariousness of their plans and hopes. There may be nothing noble in renouncing one's country, in abandoning one's home, in forsaking one's people; but is there not something remarkable in this great move one makes? Whether for better or for worse, does not the emigrant place himself above his country, his people and his government when he turns away from them, when he goes forth propelled by that inner self which demands of him a new life?

"And may it not be a better, a cleaner, a higher life? What say our Masters of the Island of Ellis? Are not these straggling, smelling, downcast emigrants almost as clean inwardly, and as pure, as the grumpy officers who harass and humiliate them? Is not that spirit of discontent which they cherish, and for which they carry the cross, so to speak, deserving of a little consideration, a little civility, a little kindness?"—*Exchange*.



WE are showing above our Buffalo Sales Office after it was fitted up with new furniture and equipment. This shows only one part of the office. The other parts have been refurnished as well.

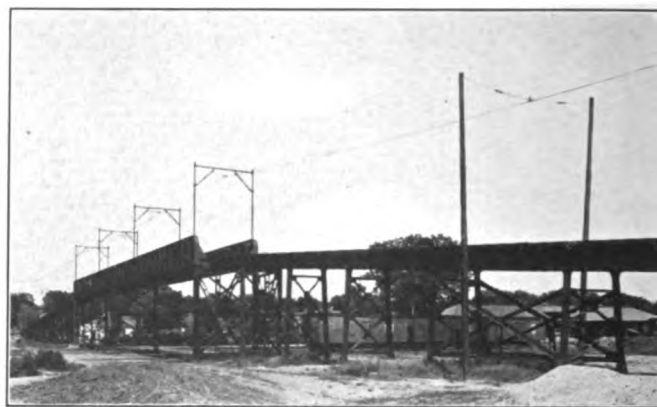
SHORTLY after the war began a woman received a letter from her husband. She opened the envelope, which had already been opened by the censor, and instead of the expected letter she found a slip of paper bearing these words: "Your husband is well, but too communicative." *Woodworkers' Record.*



THE above photograph shows Dixon's C. C. & G. being applied on a crucible at the plant of S. W. Evans & Son, Philadelphia, Pa.

The superintendent of the foundry is Mr. A. C. Steed and the foundry foreman shown in the picture is Mr. William Gaskill.

This company is very well satisfied with the results it has been obtaining with the use of C. C. & G., and claims that it secures 20 to 25 per cent. more service on account of using C. C. & G.



Viaduct, Fort Smith Light & Traction Co., Van Buren, Ark.

WE are proud to reproduce the following testimonial covering a service of Dixon's Silica-Graphite Paint with "no signs of failure":

"We mail picture of the viaduct constructed by the Fort Smith Light & Traction Company at Van Buren across the Missouri Pacific tracks.

"This viaduct was last painted in September, 1914. The paint used was Dixon's Silica-Graphite Paint. It has proved absolutely satisfactory, showing no signs of failure of any kind."—*Fort Smith Light & Traction Co.*

The Fort Smith Light & Traction Company is one of the many well known traction systems in the United States and abroad which use Dixon's Silica-Graphite Paint and have found it "absolutely satisfactory" in long service, economy, price and invariable first quality only.

Paint for Tin Roofs

Twenty Years' Paint Service

THE following testimonial speaks for itself:

"I have several large tobacco sheds with corrugated iron roofing which I intend to repaint with two coats of Dixon's Silica-Graphite Paint.

"I have a carriage house tin roof which was painted twenty years ago with Dixon's Paint and it still looks well covered."—(Signed) *Houston Mifflin.*

Those interested in painting of metal roofs should send for a copy of our Roof Booklet, which has most valuable information on paint service.

If Dixon's Silica-Graphite Paint is properly used, there is no reason why Mr. Mifflin's experience should not be repeated by anyone to a reasonable extent, depending on conditions.

"A CAREFULLY balanced and scientific tax program, which shall take into account the claims and needs of the States as well as the Federal government, and of different industrial and economic groups, is an ideal toward which all thoughtful men may well set their faces."—*Professor Ernest L. Bogart, in the Bankers' Magazine.*

KICKING ceases to help when it becomes a habit.—*Woodworkers' Record.*



**Water Tank, Pinney, Casse & Lackey Plant
of the Columbia Mills, Inc.,
Jersey City, N. J.**

THE tank illustrated above and the supporting structure, etc., after four years' exposure, have recently been repainted.

The conditions in Jersey City are very severe on all paint coatings, because of the salt air from the harbor, dampness, gases, acids, smoke, etc., from the great number of locomotives and factories, as well as the attacks from heat, cold, rain, and other climatic conditions.

If you are interested in a protective coating for your tanks or other metal work, write our Paint Department for details.

Rubber and Lead Pencils

WHY is rubber called rubber?

The story of this name being given to this valuable material is that Joseph Priestley, an English clergyman, author, chemist and agitator, made several startling discoveries. He discovered oxygen, he invented soda-water, perhaps he founded Unitarianism. One day late in the eighteenth century he discovered that a chunk of this curious crude gum could be used to erase pencil marks. Immediately there came a demand for this gum, and half-inch square cubes sold as high as two to three shillings.

But now some delver in ancient tomes finds that a Frenchman, of a noted family, antedates the Englishman. He finds in the report of the Academy of Sciences in Paris, of the date of 1752, a note, of which the following is a translation:

"Those who make use of pencils from lead mines to draw architecture, fortifications, etc., use the crumb of bread to rub out the marks of the pencil. M. Magalhães, —or, as we spell it, Magellan,—member of the Academy, a worthy descendant of the great navigator who discovered the strait south of Patagonia which now bears his name, proposed a more effectual and convenient eraser in the shape of a piece of caoutchouc, which can always be carried about. Rubbing by this new method is found to remove more satisfactorily the marks of the pencil, and all other spots that are on the paper."

Yet the French insisted on calling it "caoutchouc," while the English named it "India rubber," though none of it came from India; and, though this precious substance is more largely used in a thousand other ways than in rubbing out pencil marks, the name of rubber still sticks.

And here is another fact which is suggested by this brief note in the French report. Why are lead pencils called "lead pencils"? Probably ninety per cent. of those who read this never saw a lead pencil. The pencils in use to-day haven't a particle of lead in them. The marking substance, though usually called "black lead," is not lead at all, but graphite, a form of carbon. Then how came they to be called lead pencils?

Evidently in 1752 "pencils from lead mines" were in use. Metallic lead will make a mark on paper, and on some papers coated with clay the mark is fairly satisfactory. So people of that age used sticks of metallic lead, sharpened to a point, much as we use pencils to-day. The writer once owned a memorandum book, made in Germany, with which came an ivory or bone instrument like a woman's bodkin, tipped with a cone of metallic lead. It made good marks on the pages of the book that came with it, but was no better than an ivory stylus when used on smooth writing paper. That was a real "lead pencil." But people who had used such pencils and so named them called the new-fangled pencils "black-lead pencils," and so to-day we are all apt to misname or misnomer or miscall our convenient writing instruments which so faithfully serve us.—*G. E. B. P., in House Organ of the United States Rubber Co.*

A CLEVER commercial anagram is that of "every cent paid me," made from "received payment."

THE dictionary tells us that the peanut is "a tropical plant of erect habit." If it is of "erect habit" why is a peanut politician "small or mean," which he is said to be by the same dictionary?

"THE dervish who whirls himself into a foaming ecstasy of devotion and the strenuous American who works himself up to a sweating ecstasy of gain, are the two poles of the same absurdity, the two ends of one evil."

DOING the impossible is a commonplace of enterprise.—*Woodworkers' Record.*

BY brains alone you will not succeed. Good nature also counts.—*Gumption.*

GIVE me insight into to-day and you may have the antique and future worlds.—*Emerson.*

Good Plan to Take Rims Off

"FEW automobilists remove their rims from the wheels until forced to do so by reason of tire trouble. Take the rims off after having run the car for a short time and use a little graphite in between the wheel and the demountable rim. Tire changing will be easier later on."—*New York Tribune*.

"EVER thought of looking over the 'Dixonary' when you wanted to know which grade of graphite was right for your particular lubrication purpose?"—*Gumption*.

Shoots from the Young Idea

(From a New York public school composition (blackboard))

The Fountain Pen

"THE fountain pen is the most economical and practical writing implement. It contains one large cylindrical tube with a sleight lenthgwise oval. This contains the ink. On one end it has threads, which fasten it to a small tub, containing a round capp. The capp fits snugly in the tub, grooved on the top to inable the ink to flow freely to the pen point, which is gould. Still another round part which covers the end and prevent dust from gathering on the point and from the point being bent or sticking the owner. The enter impelment is made of rubber hardened with a varying length, width perhaps four inches long, to three eighths of an inch wide. Thus we find that this pen is useful and sinfully constructed."—*Conning Tower*.

A Pacifist

THERE was a young lady said,
"How
Shall I flee from that horrible cow?
I will sit on this stile
And continue to smile
Till I soften the heart of that cow."

An Arkansas Rule of Life

SO live
That when you bring
A little present
Home to the missus
She will not think
You are trying
To cover up a crime
With it.
—*Little Rock Gazette*.

"A SANITARIUM is a place where you go in with one disease and come out with ten."

Definitions

THE latest definition of an oil well, according to the *Mountain States Monitor*, Colorado, is: "A hole in the ground with a liar on top." It is our experience that it has been a good definition at times for a graphite mine.

THERE is a line by us unseen
That crosses every path,
The hidden boundary between
God's patience and His wrath.
—*Times (Cuba)*.

Lines to a Pencil

I KNOW not where thou art.
I only know
That thou wert on my desk,
Peaceful and contented,
A moment back,
And as I turned my head
To light a pill,
Some heartless wretch
Went south with thee.
I know not who he was,
Nor shall I investigate.
Perchance
It may have been
The guy I stole thee from.
—*Montgomery Brass Works*.

"It was Jean Henri Dunant, a young Swiss, who saw 18,000 Frenchmen and Italians and 20,000 Austrians dead or suffering on the battle-field of Solferino. He described the horrors he witnessed in a little book—men dying in the sun, men thirsting to death in their fever, men shrieking for help with no response.

"The 'Souvenir de Solferino,' Jean Henri Dunant's little book, brought about the formation of the Red Cross Society in the year 1864. Fourteen nations signed the treaty of Geneva for its creation. Dunant, having spent his fortune in getting the nations together and their signatures to one of the most beautiful documents ever written, taught school thereafter for a living.

"Sacrificial service can be called the key-word of the Red Cross organization."

NOAH was six hundred years old before he learned to build an ark. Don't lose your grip.

A SOLDIER'S life is for his family; his death is for his country; his discomforts are for himself alone.

—*Kipling*.

"No factory can continue to exist that does not provide for its own maintenance and perpetuation."

Miscellaneous Graphite Bouquets

"IN reply to a request from your Pacific Coast Manager regarding our experience in using Dixon's Boiler Graphite No. 2, will say as follows:

"We use seven 70 horse-power boilers and have had trouble with scale to such an extent that we tried about everything we heard of, but with little benefit, until we finally got your Graphite, with the result that the boilers are now *clean*, almost as free from scale as when they were new. The boiler inspector told our engineer that they are freer from scale than any boilers he has inspected in a year."—*Mecca Oil Company, by C. C. Bowles, Manager*.

"WE have yours of the 2d relative to Boiler Graphite No. 2 and beg to advise you that we have still on hand plenty of this material to cover our requirements for some time to come.

"We have stated to your Mr. Thurston that we are more than pleased with this material. We are using it regularly and cannot too highly recommend it for boiler use; in fact, we do not see how our boilers could be in better condition than they are at the present time."—*Arkell & Smiths, D. A. Burnap, Assistant Manager*.

"REFERRING to your letter of Sept. 12th, offering to furnish folders, beg to advise that your Mr. Shulman of the San Francisco office has already taken care of us in this matter.

"Our Dixon business is coming along nicely and we will give your products special attention at our exhibit at County Fair this week.

"We regard your automobile lubricants as one of our very best lines, a quality line with quality co-operation from the manufacturer.

"Thanking you for your kind offer and with assurance of our continued interest in your line, we remain,
(Signed) P. M. Quien."

"PLEASE ship us 10 lbs. of your Graphite Grease for transmissions and differentials. We have always used ordinary grease before, but have just overhauled a car that has completed 5,000 miles with your grease in it, and all the bearings and gears look so good that we are going to try it. This grease will be used in two cars we are just turning out.

"Send us some literature. As soon as our season opens in April, we will send in an order of some size."—*Bemus Point Boat & Garage Co*.

GOLDEN BOUQUETS

OR WHY

DIXON'S ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"HAVE been using your sample pencils in my work here in camp and find them very satisfactory; also white on blue prints, and will continue using them while in the service and am going to take a supply to France with me."

"REPLYING to your letter of July 30th, wish to advise that we have made Dixon's ELDORADO drawing pencils standard in our mechanical department."

"WE acknowledge receipt of your favor of August 13th regarding samples of Dixon's ELDORADO pencils recently forwarded us for trial in our engineering department, also the sample of Dixon's Best White No. 352 pencil. In regard to the No. 352, we find that this pencil is very useful, and we have placed orders for enough so that our checkers can use them in marking up blue prints, as the results are more pleasing to the eye than when using other colored pencils."

"REFERRING to the ELDORADO pencils, the samples which you forwarded have been used and the consensus of opinion is that these pencils are the smoothest running pencils we have yet used."

"RECEIVED sample of your ELDORADO HB pencil. In regard to drawing pencils wish to say that we ordered early this year a supply of your ELDORADO pencils and have found same so satisfactory that we have used nothing else."

"RECEIVED your samples of drawing pencils some time since, and I wished to give the same a thorough trial before writing you. After trying them for the last month I wish to say that I have never found a better drawing pencil, and one that gives more satisfaction than yours. The white pencil is the best on the market, and will fill a long felt want in the Architect's office."

"REFERRING to sample sent me of your new ELDORADO pencil, I am glad to know of this pencil, which I shall use hereafter in preference to any other I have recently tried. I see no reason why American-made pencils should not be superior to any pencil made anywhere, and accordingly take pleasure in congratulating you on the ELDORADO, which it seems to me should among draftsmen and engineers have a large and satisfactory sale, if prices are in line."

"I HAVE the sample pencils sent me by you and have tried some of them out. The ones I have already tried are superior to any pencils I ever used. They are smooth and the points stay with you. I shall use them exclusively in the future, as I wrote you I will not use anything German again if I can help it, or know it, if I can get anything at all that will answer the purpose. If I can make that resolution as good in other things as I can in pencils, I will be happy."

"I HAVE given your ELDORADO pencil a good trial not only with your samples but others since then, and find that you do not misquote when you say 'the master drawing pencil.' I find them exceptionally true to the markings and they continue true to form throughout the entire pencil, which many others at the present time are not doing. In my opinion, based upon 15 years' experience with drawing pencils, I consider them the best at present on the market and will use same whenever I can obtain them."

"It is with pleasure that I acknowledge the receipt of sample ELDORADO—'the master drawing pencil'—in HB, for which please accept my thanks. I have no hesitancy in stating that after giving this pencil a thorough and exhaustive test, it is the most uniform in texture, smoothest, toughest, and best wearing pencil of this grade that I have ever used. The uniformity of texture and extreme smoothness of this pencil make it especially adapted to free-hand work, and of course these qualities are equally desirable in a pencil used for purely mechanical work. It is a pleasure to use an article of such exceptionally high quality."

"It is with pleasure that I give my testimony in favor of Dixon's pencils. They are superior, taking them all the way through, to any I have used, and I use a great number."

"SEVERAL days ago I received the additional samples of your ELDORADO pencils, and have given them a thorough test. It gives me pleasure to state that I consider them the best pencils I have used in my work. I will gladly recommend your pencils to any one looking for a high-class pencil."

"I AM in receipt of your letter of the 21st enclosing three of your sample pencils. Beg to state that I have always found Dixon pencils to be the best for ledger work."

"IN reply to the enclosed letter, I wish to say that I have used the samples of Dixon's Pencils you sent me and find that they answer the purpose of draughtsmen in every way; not judging from the samples, I bought 2, 3 and 4H in Denver and 2 and 3H in Pueblo; I find no difference in them from the samples. All of those I have used hold a point well, are not brittle, either write or draw lines without that scratching or rough feeling, are the same hardness from one end to the other, and one little thing some pay no attention to, and that is the color. I am always better satisfied with a pencil that is painted yellow than any other color, and seldom ever use a pencil that is not yellow or close to it. I don't know why, but I am always better satisfied. Another small thing, while the pencil is hexagon it don't have the extreme sharp edges that some do and the wood is good and straight grain, easy to cut, and your knife goes where you want it to."

"It is the greatest of pleasure for me to answer your request and tell you how I like your sample pencils. I am here to say I have never found in all of my drawing a finer drawing pencil than your company manufactures. The pencil has longer wearing, more even grained, better graded, and smoother lead than any other pencil I have used."

"REPLYING to your favor of recent date, we beg to say we found the pencils to be quite satisfactory and have since bought a supply from —."

"IN reply to your letter of the 25th, I can say that we found the sample pencils you sent us some time ago very satisfactory. We have specified your ELDORADO 2H and 4H."

"I HAVE received the samples of ELDORADO pencils and believe that they will stand up with those which we used to import from Europe. We will be glad to order some of them the next time occasion demands."

Fireman Imprisoned in Union League Boiler

Rescue Squad Cuts Hole in Furnace With Torch to Release Him

John Garvey, a fireman at the Union League Club, Fifth Avenue and Thirtieth Street, wriggled through a nine-by-fifteen-inch hole into a boiler there last night, with only Charles Krumhaus, the secondee to help him, but when it came to getting out again an entire hook-and-ladder company was of no avail. After two hours in the boiler John was extricated by Rescue Squad 1 of the Fire Department, which cut out a section with its oxy-acetylene torch.

It was a little before 9 o'clock when John got inside and started to chip away the scale. In less than half an hour he decided that he would get out and get another chisel. He found that he couldn't.

The second engineer got a can of oil and lubricated his foreman. Then John tried the exit again. It seemed to him after a thorough trial that the hole had shrunk a bit. All the subterranean staff of the club was called, and by turns they strove to haul him through the hole, but to no avail, and J. A. Rogers, manager of the club, was appealed to. He called a hook and ladder company.

A brief trial sufficed to prove that the boiler was proof against axes and hooks, so the rescue squad was called. Acting Lieutenant John Ryan, wedged into the thirty-inch space above the boiler, directed the cutting flame of his torch through the five-eighths-inch steel and made an opening. Crumpled, oil-soaked and plastered with rust scales, Garvey emerged. He took a full breath and opined that he wasn't hurt a bit. A physician agreed with him.

N. Y. Tribune, Sept. 5, 1917.

How's Your Hammer and Chisel?

The antiquated, time-consuming, expensive method of removing scale with a hammer and chisel is unknown when boilers are treated with

DIXON'S PIONEER BOILER GRAPHITE

It makes no difference whether the feed water is good or bad. Dixon's Boiler Graphite (fine flakes) acts upon the scale physically—not chemically—breaks up the cohesion between the particles of scale and their grip on the boiler tubes and sheets—in fact, makes the scale easy to remove.

It is not worth while to use Boiler Graphite unless you use the best. Say "Dixon's" and insist upon getting it.

Send for Booklet No. 190-T

Made in Jersey City, N. J., by the

JOSEPH DIXON CRUCIBLE COMPANY



ESTABLISHED 1827



THE DE VINNE PRESS
NEW YORK

Graphite



Vol. XIX

No. 12

DECEMBER, 1917

"Glory to God in the highest,
And on earth peace, good will toward men!"



Christmas—New Year



"When the war drums throb no longer
and the battle-flags are furled
In the parliament of men, the feder-
ation of the world."

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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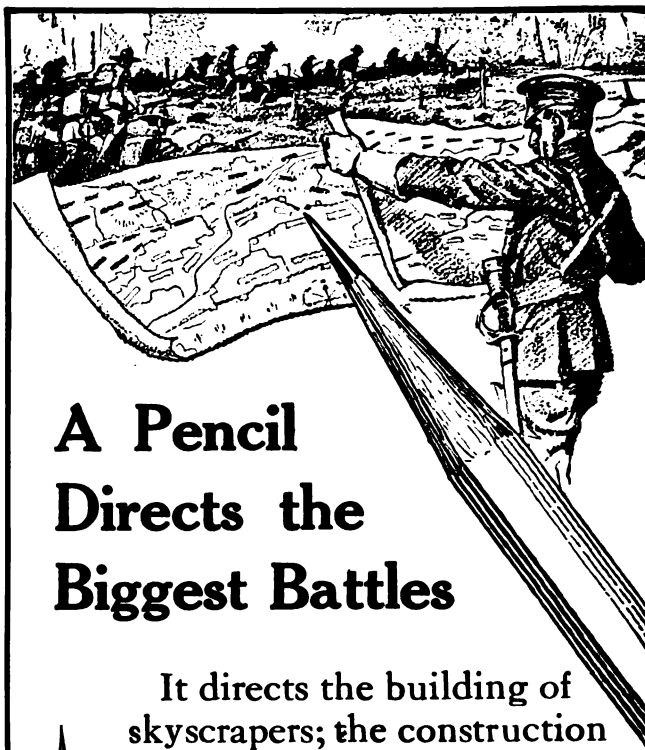
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A Pencil Directs the Biggest Battles

It directs the building of skyscrapers; the construction of bridges; the making of a piston rod. It is the valued friend of men who know and do.

DIXON'S ELDORADO

"the master drawing pencil"

is a dependable friend. It does not interrupt thought by breaking or tearing the paper. The harder leads will not deface plans by smudging. In all 17 degrees the leads are strong, responsive and even in tone.

"The master drawing pencil" is the close friend of men who do finished work and who pride themselves on doing the best work.

Write us on your letter head for full-length samples of your favorite degrees.

JOSEPH DIXON CRUCIBLE COMPANY
Dept. 190-J, Jersey City, N. J.

DIXON'S BEST WHITE N°352
writes white on blueprints





Suggestions as to the Handling of Stopper Heads

IMEDIATELY upon receipt of stopper heads from the manufacturer, there should be a sufficient quantity of them unpacked to last for several weeks, and they should be placed around or on top of the open hearth furnaces where they will have a toasting heat until ready to be used. As fast as the supply is drawn from, it should be replaced by others from the storehouse. This insures a gradual elimination of the moisture that may have been collected in transit.

The stopper rodman should have his work bench in close proximity to the open hearth furnace where the stoppers are drying. After seeing that the rod and bolt head are clear from slag, the first operation is to place the correct number of sleeve sections on the rod, shoving them clear up to the goose neck. The bolt is then inserted in the stopper head and clinched on to the bottom of the rod.

The bolt head should be smeared with **Dixon's Moist Stopper Mixture**, gannister or luting of some sort before placing it in the stopper head. The recess in the stopper head should then be filled with gannister also, completely covering the bolt head.

Next, the bottom section of the sleeve should be brought down on top of the stopper head with plenty of **Dixon's Moist Stopper Mixture** in between and the surplus which squeezes out can be used on the joint of the second section and so on until the top is reached. Usually the stopper rod is designed with a large cap of approximately the same outside dimensions as the sleeve itself, and this works up and down on the rod on a screw thread, covering a distance of three or four inches. Between this cap and the upper section of the sleeve place a coil wire spring surrounding the rod and sufficiently stiff to hold the sleeve section firmly in place, yet flexible enough to allow for expansion and contraction of the entire completed sleeve. The heat is hardly enough to draw the temper from this spring, but it should be watched. The tension should be light in the beginning because when the hot metal surrounds the entire sleeve section, it will expand from a quarter to a half an inch, and without such provision the strain will be almost sure to force the stopper head from the rod at the bottom or crack one of the sleeve sections.

It is the practice in many steel mills to pour a gannister mixture which is thin enough to flow readily in at the top end of the sleeve after it is completed, thus filling up all the space between the sleeve and the rod clear down to the stopper head. After the rod has been made up in this way,

it should be taken to the drying room, which is a vault-like affair with a circular revolving hanger near the ceiling built something on the order of a stamp rack which holds the rubber stamps on your desk. The diameter of this is sufficient almost to fill the room.

The completed rods should be placed in this room upside-down, that is, with the portion containing the stopper up near the roof and the goose neck near the floor. The reason for this is that whatever moisture is inside of the sleeves will settle to the bottom and even with long drying the stopper will not be in proper condition if the moisture keeps running down all the time.

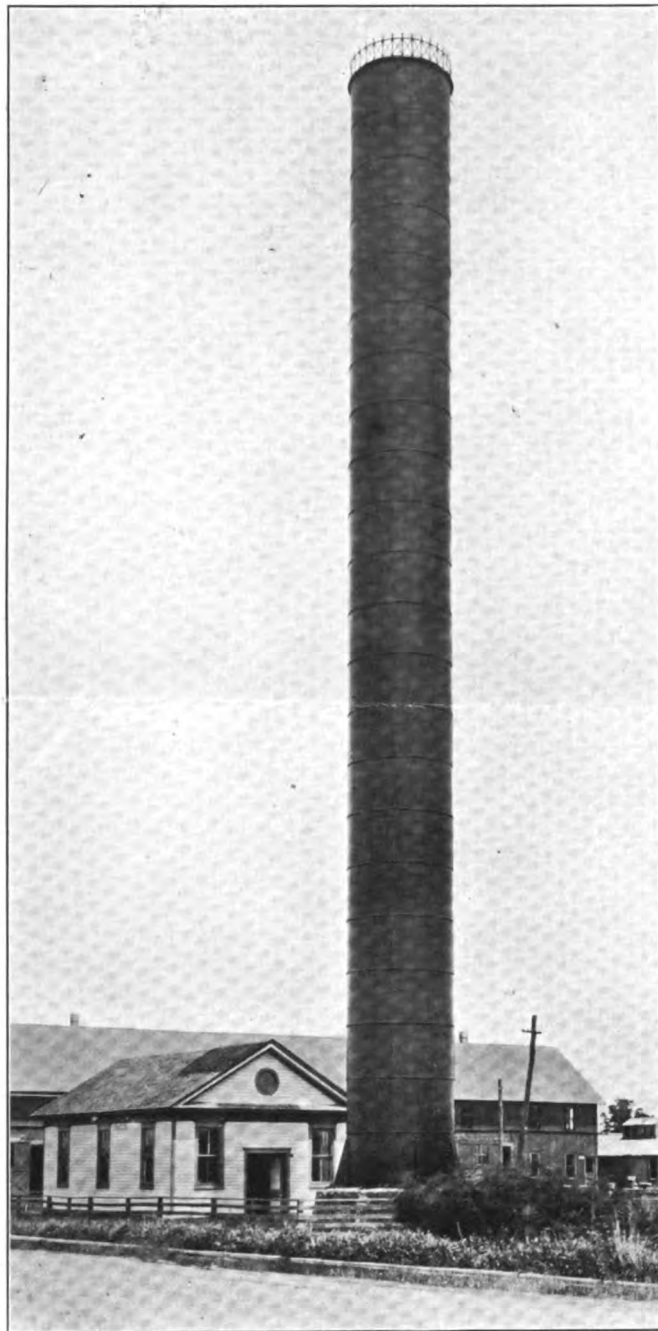
As the wheel containing these rods is rotated, the ladle man removes the one which has been in the drying room the longest and the stopper man can hang another one in its place. This drying room should have a fire built on the floor and it should be going day and night. After the rod is taken from this drying room and placed in the ladle, care should be exercised to see that the stopper head seats properly in the nozzle and it should be operated up and down once or twice to prove this. A little dry sand sprinkled around the stopper head where it fits into the nozzle after it has been seated for the first heat will stop any flow of metal, providing the fit is not perfect.

A fire of some kind should then be built in the ladle. Some use charcoal or wood fire, others have oil or gas-flame blow torches which heat the stopper head and adjacent parts of the sleeve and nozzle, up to at least 250° F. before the metal is turned into the ladle.

If a stopper head cracks, the cause can be looked for in either not allowing enough room for expansion lengthwise of the sleeve, or a bolt head which fits too tight in the stopper. If the stopper head "scalps," that is, if a piece flies off the outside, this is caused by moisture or too quick heating and will not occur if the above directions are followed as to first heating. If the stopper head washes before the metal it is usually on account of an improper fit, and when the leak starts the wash of the metal gradually eats into the stopper head. Remember that the grain of the Dixon stopper head runs lengthwise instead of crosswise, and this you will readily see gives it considerably more strength and there is less liability of pulling off a piece in case the stopper sticks to the nozzle. Furthermore, the bolt hole is always true as if the stopper had been turned in a lathe. It is in the

center of the stopper and straight up and down, never on a slant, which insures a better fit in the nozzle.

Dixon's Moist Stopper Mixture is made of the same materials as are our Stopper Heads and Sleeves. It is packed in 100 lb. kegs and 500 lb. barrels. An inch or two of water kept on top of the keg or barrel will keep it in perfect condition ready for instant use.



Standpipe, Wildwood, New Jersey

THE standpipe illustrated is owned by the city of Wildwood. It is 10' x 110', and was recently painted with two coats of Dixon's Silica-Graphite Paint by Mr. Joseph V. Siler, Contracting Painter, Philadelphia, Pa.

Both Mr. Siler and the city of Wildwood figured on efficiency and the greatest worth of paint service for the least cost. That is why Dixon's Silica-Graphite Paint was chosen.



Frederick H. Mix

MR. MIX, who has been connected with the Joseph Dixon Crucible Company since January, 1909, has been promoted from the staff of the Dixon Company at 68 Reade Street, New York, to the position of assistant to Herman Price, head of the Pencil Department at the General Office, Jersey City.

Mr. Mix is in his early manhood, full of energy and good ideas, and during his connection with the Dixon Company has devoted himself to the exploitation of the various Dixon Graphite Products. He will now center his work on the pencil line alone, and with Mr. Price at the head, and with the assistance of the various representatives of the Dixon Company, there is a good probability that Dixon's Eldorado Pencils will be known throughout the entire world as the highest grade and most uniform line of lead pencils.

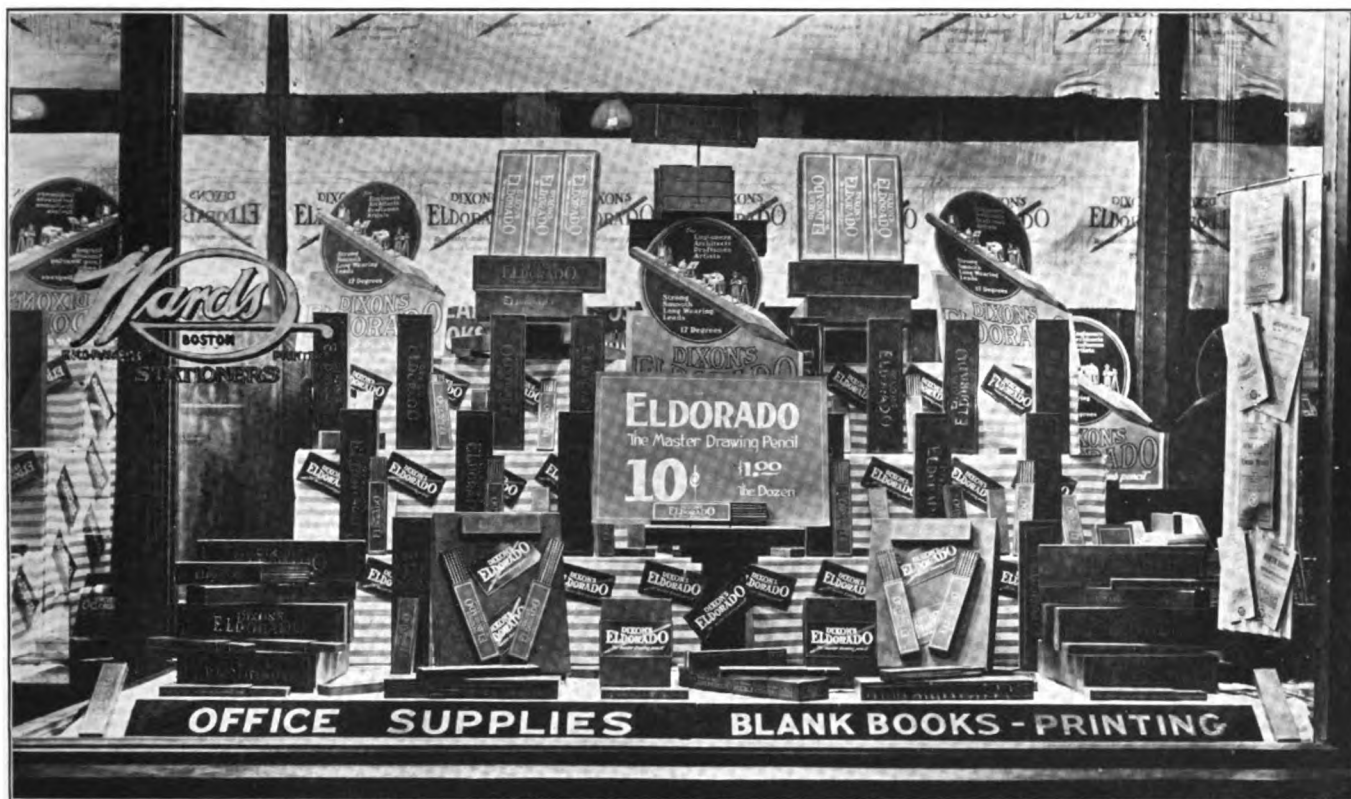
How They Say It in Spain

THE people in Spain have sayings and proverbs which are more or less current throughout the civilized world, but they have their own way of saying them.

The following are some of the well-known sayings in the United States with the Spanish way of expressing the same idea. The first quotation is in English, and the second the Spanish translated:

- "A still tongue shows a wise head."
- "A fly does not enter a shut mouth."
- "When wine's in wit's out."
- "Wine wears neither linen nor woolen breeches."
- "The better the day, the better the deed."
- "On a good day, good deeds."
- "A word to the wise is sufficient."
- "To a good listener a few words."
- "Every man has his hobby."
- "Every fool is pleased with his bauble."
- "Every dog has its day."
- "Every pig has its Saint Martin's Day."

The Spanish peasant generally kills his pig on Saint Martin's Day, *i.e.*, in November.



ELDORADO Window Display by "Ward's," Boston, Mass.

The Child Labor Law

WHEREAS, The American Protective Tariff League has always been and is now in favor of wholesome and uniform laws regarding the employment of child labor, and the rigid enforcement of the same in this country; and,

WHEREAS, The Sixty-fourth Congress passed a Child Labor Law on September 1, 1916, effective on September 1, 1917; and,

WHEREAS, This law prohibits the employment of children under fourteen years of age, while the Underwood Tariff admits the products of foreign child labor from all countries to the markets of the United States; be it

RESOLVED, That we earnestly recommend to the Congress of the United States that the present Tariff Laws be so amended as to prevent the importation of foreign merchandise of all descriptions wherein foreign child labor under fourteen years of age shall have been utilized in whole or in part in its production.

State of New York }
County of New York } ss.

On this second day of October, 1917, personally appeared before me, Wilbur F. Wakeman, General Secretary of the American Protective Tariff League, and being duly sworn, deposes and states: that the above resolutions were unanimously passed at the meeting of the Executive Committee and Board of Managers of the American Protective Tariff League, held September 27, 1917.

EDWIN C. GIBSON,

Notary Public for Kings County, No. 105. Certificate filed in New York County, No. 29. My commission expires March 30, 1919.

Foreign Trade

THE IRON TRADE REVIEW of November 1st prints a two-page article on the "Effect of the War on Export Trade." In part it says: "Foreign trade instead of being merely a contributing factor has become an indispensable element of our industrial prosperity. Henceforth, we must accustom ourselves to regard it as vitally necessary to our material well-being, no less than to our national safety. We have come slowly to realize the significance of what is called 'militant commerce.' We understand, as we never did before, the consequence that its prosecution entails.

"But it should be recognized that our share of this process will be small or great in proportion as we are able to coördinate our vast and varied productiveness to a common end. The necessity of balancing imports and stabilizing exchange, the creation of an American merchant marine, the necessity of compensating the output of additional capacity by increase of exports, and the advisability of meeting the combination of our competitors in foreign markets by the use of similar weapons, would seem to be among the rudimentary requirements of the situation.

"All of the European countries now at war will be under the most urgent necessity of exporting their products to the greatest possible extent as a means of rehabilitating exchange and of paying for needed imports.

"If we are to meet other nations in foreign markets on terms of equality, it will be necessary not only that we establish methods of mutual coöperation, but that our government aid and protect us at least as effectively as our competitors will be aided and protected by their respective governments."

MEN who are born great may get over it. The Czar did.
—*Woodworkers' Record*.



Dixon's Contribution to the Second Liberty Loan Parade in Jersey City, N.J.

How We Can Save Wheat, Meat, Fats and Sugar

WHEAT. Use corn, oats, rye, barley, or mixed cereals instead of white bread or wheat cereals. Use less pastry and cake. If you buy from a baker order in advance, so that he will not bake too much. Cut one slice of bread at a time as needed. Never use fresh bread for toast or cooking.

MEAT. Use poultry, rabbits and fish. Use beans which have nearly the same food value as meat. Never serve meat oftener than once a day. Have at least one meatless day a week.

MILK. Use buttermilk and cheese freely. Use up sour milk for cooking and making cottage cheese. Use less cream.

FATS (BUTTER, LARD, ETC.). Reduce the use of fried foods. Use substitutes for butter in cooking.

SUGAR. Use less candy and sweet drinks. Take less sugar in tea and coffee. Eat less cake and do not use frosting or icing.

VEGETABLES AND FRUITS. Double the use of fruits and vegetables. They take the place of meats and wheat. *Cook no more than just enough.*

Serve small portions.

Do not eat between meals.

Do not ask a second helping unless you need it.

Eat plenty but waste none.

Why We Must Send Wheat, Meat, Fats and Sugar

THE men of our Allies are fighting, the women are doing manual labor in their places. Both, therefore, need more food than usual. The shortage of labor has caused a great decrease in their crops. The consequent high cost of fodder has caused the killing of many of their cattle, so they now have a great shortage of meats, milk and butter. For sugar they formerly depended upon home grown beets and German exports. Now they get none from Germany and the beet district of France and Belgium is the battleground of the western front.

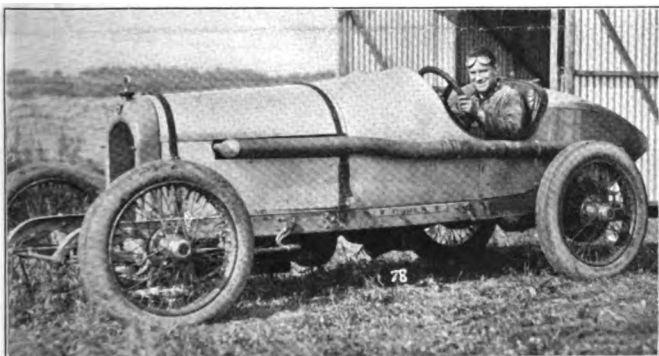
Wheat they have always bought from us in large quantities. Now the shortage of their crops, and the fact that women are doing the manual labor, make their need greater. The submarine and the use of merchantmen for military purposes have greatly reduced the amount of shipping space available. Consequently the wheat usually carried from Australia and the Argentine cannot be transported to Europe. We therefore must send one hundred and thirty million bushels more than usual this year. There is more food value in a cubic yard of wheat than of any other cereal. With our cubic yards of available shipping space limited we cannot substitute corn and other cereals for wheat for shipment to our Allies and must substitute them on our tables for ourselves.



The Dixon Booth at the Foundrymen's Convention

THE above illustration shows the Dixon booth at the Foundrymen's Convention held in Boston in September.

This convention proved to be the most successful in the history of the organization, and the Dixon exhibit was certainly one of the most attractive. An interesting feature of the exhibit was a mechanical sign representing Uncle Sam ringing a bell and pointing to some Dixon crucibles, on which was a card announcing that "Uncle Sam uses them."



Jerry Mason, an enthusiastic user of Dixon's,
in his Ogren racer

Sermon to Salesmen

EVEN though you may have read Mark Twain's "Sermon to Salesmen" it will do you no harm to read it again.

"The pastor was the most eloquent orator I ever listened to," said Mark. "He painted the benighted condition of the heathen so clearly that my deepest compassion was aroused and I resolved to break a life-long habit and contribute a dollar to teach the Gospel. As the speaker proceeded I decided to give five dollars and then ten. Finally I knew it would be my duty to give all the cash I had with me—\$20. The pleadings of the orator wrought upon me still further and I decided to borrow \$20 from my friend in the next pew and give that also.

"That was the time to take up the collection.

"However, the speaker proceeded and I gradually lost interest and dropped off into a sweet slumber. When the

usher woke me up by prodding me in the ribs with the collection plate, I not only refused to contribute, but am ashamed to state I stole 15 cents from the plate."

—*The Fortuna Magazine.*



St. Cuthbert's Chapel, MacMahan, Maine

Dixon's Paint Desirable for Wood Work

ON the crest of an evergreen ridge which crowns the top of MacMahan Island, Maine, facing the Atlantic, one hundred feet above the sea and only a few hundred feet from its breakers, stands St. Cuthbert's Episcopal Chapel.

Constructed from plans by Edmund Q. Sylvester, a Boston architect, with interior decorations designed in the office of R. A. Cram of Cram & Ferguson, Architects, and exquisitely carved by Kirchmayer, this edifice is considered one of the most artistic summer churches in New England.

In selecting a paint for the exterior woodwork the question of color was the first consideration, and Dixon's Silica-Graphite Paint, olive green, was used. It blends most effectively with the rich shades of gray and green which nature has so lavishly bestowed on the surroundings. Aside from this pleasing harmony in color is something more practical, for Dixon's Paint wears wonderfully well, even under the severe conditions that exist near the sea.

Long service only adds a richer tone to the color. Dixon's Silica-Graphite Paint will remain in perfect condition years after the ordinary lead and oxide paints have faded and crumbled away.

Speaking of St. Cuthbert's, *The Churchman* says: "The people who go to MacMahan, Maine, for the summer, go there not only because of the peculiar charm the island has, but also because St. Cuthbert's Chapel is there."

A SURE cure for swelled head is to pause and think how many people there are in the world who never heard of you.
—*Woodworkers' Record.*

Where Will You Be Ten Years From Now?

YOUR future is in your own hands. It's up to you. Success or failure will be of your own making.

If success does not come to you, you may believe you are "unfortunate"; you may say it is due to "conditions"; you may be disposed to blame others for your failure to achieve. But the fault will be you. You are the builder of your future.

When you are ten years older will you still be putting in your time on little repair jobs and selling goods over the counter? Or will you be a money-making business man sitting at a desk and directing a profitable business?

As a retail hardware dealer your chances for making a greater profit were never better than they are to-day. The standard of living is constantly rising and people are spending money more freely and are enjoying the comforts of life to a larger degree than ever before. You rightfully deserve to receive a share of this increased business and the increased profit. Are you getting it?

If your business is at a standstill or is going backward in this progressive and prosperous age, it is an indication that you are not in step with the procession. There is something wrong somewhere. You may be doing a considerably greater business than you did in former years, but your profits are the same or less. Did you ever stop to analyze the reason for this condition? It may very likely be that your profits are being eaten up through some unknown cause. Ninety per cent. of the retail failures are due to a lack of knowledge of facts on the part of the proprietor. A business cannot properly be directed or controlled without keeping daily in touch with what is happening.

Do you keep a record of every transaction so that you know how much money passes over your counters and what becomes of it? You cannot stop your leaks and losses unless you have a daily record to check your business. If you forget to make a charge for some of your sales you might as well give your goods away. In a hardware store, especially where a credit business is done with customers who are well known, it is very easy for sales clerks to forget to make a charge for some of these credit sales. Don't depend upon your memory and try to keep all the details of your business in your head. Every item of expense should also be recorded if you want to know what your net profits are.

Do you know how much stock you are carrying and how it is moving? Capital tied up in stock that sticks on your shelves had better be invested in some growing outside concern where it is sure to earn 6 per cent. or more.

Progressive merchants know that it pays to make their store attractive; they know the value of advertising, of service, and of quality in merchandise. All these tend to increase business, but they will be of little avail if the increased business does not mean increased profit. It is for you to choose—and to choose now. To-day you should lay out the route of your future.

If you are a retailer your future success depends upon the growth of your business. You want to—you must—make that business expand and prosper.

Do you know that your business can never expand and prosper unless it is framed upon a proper business system, a process of accounting that tells you where you lose and where you gain? You cannot travel the road to business success unless you have good accounting methods to guide you. Adequate records will give you a basis for efficient management; they will tell you whether your business is sick or healthy.

It is time to stop guessing. Competition is too keen and margins are too low to permit of wastes that were common in bygone days. By adopting methods that have proved successful in other retail establishments you will receive greater profits and be able to build up your business.

Many retailers have not gone into business accounting because heretofore existing methods were complicated. There were too many books; the forms were too complex. To handle them the retailer would have to be an accountant—which he is not. He is just an ordinary man to whom accountancy is vague.

What you need is a system that will require very little of your time to operate; that will work automatically; that will act as a guide in your merchandising by giving you daily the facts that you should know; that tells you when your stock is running low, what lines are dead, what expenses are creeping up, what accounts should be collected, what bills should be paid, what clerks are producing the most profitable business; in short, a system that you have always wanted but have been unable to find. You won't have to stay up nights worrying about forgotten charges or how you are going to meet expenses, because you will be able to keep in constant touch with what is happening and you will know at a glance how you stand.

If you are interested and wish to know more about this system, please write to us and direct your letter to Dept. 190.



An Attractive Window Display of Roberts Auto Supply Co.,
Syracuse, N. Y.

The Map Habit

AT a meeting of the Board of Directors of a big manufacturing concern, a statement was made by one of the directors that Brazil was larger than the United States. The statement caused a laugh and was followed by the remark that it was a long time ago that the director went to school and he had evidently fallen behind in his geography. The unbelievers were very much surprised to learn that there was room enough in Brazil to put the United States and the German Empire as well.

The Irving National Bank in its "Trading with Latin America" tells us that we should get the "map habit." A good atlas should be kept in every office. The "map habit"

should be encouraged to the end that there may be great familiarity with places.

While a large percentage of American exports in recent years were undoubtedly due to the conditions created by the European war, the increase of trade with Latin-American republics was not in proportion to existing opportunities. Whether the growth shall be continuous or whether the ground that has been won shall be lost, is entirely dependent upon the attitude and efforts of American manufacturers.

American business men who do not regard foreign trade seriously and ignore fundamental requirements destroy the opportunities of their fellow merchants who take a correct view of their obligations toward foreign buyers.

The necessity of a foreign trade is apparent to any one who is not wilfully blind and the sources of information are many, and there is no excuse that the heads of manufacturing concerns can make to their stockholders if they do not seriously consider and study and lay a foundation for foreign business. The time to do so is now and not "after the war."

Export Business

THE statement was made a short time ago by the president of one of the largest corporations in the United States that the three most important questions were: war, transportation, and export business.

Mr. Frank L. Brown, president of the Ransome Concrete Machinery Company, 115 Broadway, New York, has written the following letter to a friend in San Francisco, and has given us permission to publish it. Those who are fortunate enough to be acquainted with Mr. Brown will appreciate the letter and should also believe that plans should be laid now for a largely increased export business that the manufacturers of the United States must depend upon after the war ceases and commercial activity and commercial rivalry again enter the old fields and seek for new outlets.

"Knowing your keen interest in the development of trade on the Pacific Coast, you no doubt will also be interested in the great step ahead of us in the fight of the United States for commercial supremacy in the world trade after the European War.

"All broad-minded men of the West realized long ago that cooperative effort is much better than individual effort, and with this thought in mind I have joined the American Manufacturers' Export Association, whose offices are at 160 Broadway, and have just been elected Vice-President of that Association.

"I believe that this Association is the most important factor for the development of the export trade in the United States, and I am very desirous indeed that your company should join this splendid organization and contribute your support to its great aims and purposes.

"I have asked Mr. E. V. Douglass, Secretary of the American Manufacturers' Export Association, to send you all the data, and will be very glad indeed to know that you have decided to become one of our members.

"Whenever you come to New York I hope you will be sure to look me up, and it will be a great pleasure to renew our pleasant business relations of many years' standing.

"With all good wishes for your health, happiness, and prosperity, believe me."

Can Punk Ethics Be Good Business?

SO asks Mr. E. M. Dunbar in the *Advertising News* in a "few paragraphs on that loose lunacy, 'The customer

is always right.'" Mr. Dunbar adds that he who first hurled that shot of near-wisdom at a half-thinking public knew full well that the customer is frequently dead wrong, often grasping, and not seldom a cowardly grafter and robber.

The phrase, "The customer is always right," has been quite a favorite one with "efficiency engineers" who have some theory to work out or to whom that phrase has been specially unctuous.

Mr. Dunbar well says, that since such a commercial policy is punk ethics, how can it be good business to act as if the customer is always right?

Taking the position that the customer is always right places the merchant in a position where he virtually invites from easy-going human nature the abuse of a too liberal privilege. Continued opportunity for such abuse is demoralizing. In the world of trade such abuse means extra expense. And who is going to carry the added money burden?

As an extreme instance, take the return to a department store of damaged goods on which full credit is demanded by a charge customer. Would this same customer order cantaloupes, say, from a fruiterer, keep them three or four days far from the ice, and then return them, spoiled, to the seller simply because she irresponsibly decided that she did not want them?

Is there any difference between the two instances, save that in the former the customer deliberately spoiled the goods, and in the latter she deliberately let them spoil.

Mr. Dunbar goes on and in his following paragraphs very clearly shows that it is not good business to consider that "The customer is always right."

Tin Roofs

AN ounce of prevention saves a pound of trouble. Take tin roofs, for instance: The owner may complain of the service of the protective paint. Is he sure it is the fault of the paint, or of the tin, or of the painter?

We have seen circulars of tin manufacturers, advising owners not to use such and such a paint. The question arises, Is the tin used to-day what it was when Welsh and Swedish standards of quality prevailed? Ask any tinsmith. Possibly his answer will convince you that the fault may be poor tin and not poor paint.

Moreover, tin roofs should never be tarred in suspected spots. Tar will destroy tin. Get to the leaky spot itself and solder it. Do not cement it. Before painting, break all blisters, and scrape off all scaly film that is not tight on the roof. Also do not apply paint so thick that it will lump and blister under the sun. Do not paint over surfaces wet with rain or dew. Brush the paint out thoroughly and wait a few days between applications.

On new tin apply Dixon's Silica-Graphite Paint, according to directions on the can, which explain weathering conditions and cleaning grease with sal-soda, commonly known as washing soda.

Where Dixon's Silica-Graphite Paint is properly applied, our Roof Booklet shows that Dixon's can give and does give longest and most economical service *per year*.

There is no economy in buying paint because it is cheaper *per gallon*. The user only wastes labor, which is a greater cost than the cost of material. If a thousand and one users can get better service on roofs from Dixon's Silica-Graphite Paint, why not every user, if the conditions are similar?

We shall be glad to send our Roof Booklet to any inquirer.

Your Body Your Fortune

ACCORDING to Dow, Jones & Co.: "If your margin has run out, and, unable to supply the sufficient funds, you are sold out, and have no other monetary possession in the world, be of good cheer, because you still have a small fortune in your body to begin anew. It has been estimated that the materials in the average person's body are valued at \$18,500. There is enough phosphorus in one individual to poison 500 people or to tip 820,000 matches; enough gas to fill a balloon with a lifting power of 200 pounds; enough illuminating gas to light a street a quarter of a mile long for five years, and enough graphite to make 720 lead pencils." This is undoubtedly intended as a cheering thought, smacking of "uplift," but in the case of a "down and out" the phosphorus and gas in one's body seem only to contribute to the general sensation of being "lit," and at the same time a feeling of light-headedness far from inspiring, with the "lifting power," so far as one's feet go, practically nil. Undoubtedly the graphite is what enables men to make their mark in the world, only in some cases it turns out more often to be a case of "blue penciling," alas! It would be interesting to learn if any bank would accept the above as part collateral for a loan, along with "character."

—New York Sun.

Fate

AND two shall walk some narrow way of life
So nearly side by side, that should one turn
Ever so little space to left or right
They needs must stand acknowledged face to face.
And yet with wistful eyes that never meet,
With groping hands that never clasp, and lips
Calling in vain to ears that never hear,
They seek each other all their weary days
And die unsatisfied—and this is Fate!"

Cost of Living

THE ECONOMIC WORLD attributes the rapidly advancing cost of living since the war began to 380% increase in the world's uncovered paper currency, now \$24,660,000,000, and 140% addition to national debts in all principal countries, up to July, 1917, now \$106,000,000,000.

Geologic Eccentricities

UNDER this heading, the *Mining and Scientific Press* tells us of some of the curious things found in mining in Colorado. It tells us of caves occasionally found far underground, and mentions one of them, which is a pear-shaped chamber 50 feet high and 35 feet in greatest width. This cave was filled to a depth of ten feet with fine particles of ore, and the walls were encrusted with two feet of rich ore consisting of quartz and calaverite, much of it in beautiful crystals. From this curious cavity \$1,250,000 worth of ore was removed, most of it being screened and sacked without further sorting or concentration. Throughout there was every evidence of volcanic action. Many remarkable deposits have been found, many of them of great value.

Preparedness

SING a song of war time,
A bottle full of rye,
Put it in the office safe,
Country's going dry.

When the safe is opened
The boss will start to sing.
I wonder if he'll pass it round,
Or be a "stingy thing."

—Chicago Tribune.

DAILY papers advise us that boys are to be organized by the United States Department of Labor for farm work in 1918. Of 5,000,000 to 6,000,000 boys 16 to 21 years old in the United States, 2,000,000 are not productively engaged in summer.

THE President of the British Board of Agriculture states that approximately 200,000 women have replaced men in farm work in Great Britain.

The *Manufacturers' News* states that it costs from 45 to 60 cents a bushel to produce wheat in the Central States, and estimates the farmers' profit on \$2.00 wheat (about \$1.70 at country elevators) at two and one half times the cost.

A PAT on the back is sometimes a pleasing sensation, even to those who are not putting their backs up to be patted.

A LETTER, in which he acknowledges receipt of copies of our pamphlet "Spanish Words and Phrases," comes to us from the principal of a high school, and he adds, "I know we shall all feel that 'Dixon' not only represents the lead pencil, but that 'Dixon' always means to us now the name of a public benefactor."

Miscellaneous Graphite Bouquets

"THIS is to advise you we have been cataloguing and handling Dixon's Graphite Automobile Lubricants for the past seven years and find our business increasing each year on this line.

"We also find that the Dixon Crucible Company is always ready to lend a hand when giving our salesmen talks, also educating the consumer to know what this material is and what it will do.

"We can highly recommend Dixon's Graphite Lubricants to give perfect satisfaction whenever used, if the different grades are used according to the directions and for the proper purpose."—Chicago Automobile Supply House, Wm. M. Weber.

"It has been with pleasure that we have noted quite a marked increase upon your line of greases during the past season. This we can attribute to two or three causes, the principal one of which has been the efficient missionary work which your representative has been doing in our territory, as we have found in many cases we have received orders through his work. He also has posted our store salesmen regarding the merits of your products, and we are now selling Dixon's automobile lubricants in a more intelligent manner.

"No doubt your advertising is contributing to the increased sales, so with Mr. Ackerman's work and your advertising, it is having the desired results, and we are hoping for the coming season that we can show you a greater increase in our orders than we have during the past year."—Jackson Motor Supply Co., per E. F. Austin, Accessory Dept.

"WE are advised by the Chicago Office that the Hammond Brass Works of Hammond, Ind., were securing an average of 30 heats on our No. 225 Ideal Furnace Crucibles.

"Shipments were made them on July 28th, August 23d, Feb. 1st, 5th, and 28th, and last week, March 7th, quite a large shipment was made to them of both No. 125 and No. 225 Ideal Furnace Crucibles. This report is indeed encouraging."—Crucible Department.

"I WILL be glad to have you send me sixty-five copies of 'Useful Spanish Words and Phrases,' and I will see that they are put in the hands of all of our teachers."—From a School Superintendent.

GOLDEN BOUQUETS

OR WHY

DIXON'S ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"THE ELDORADO pencil is excellent and we have arranged to order this pencil as needed from —."

"ACKNOWLEDGING yours regarding samples of ELDORADO pencils, I am pleased to advise you that I tested the samples and found them satisfactory in every respect and expect to use them hereafter in my work."

"REFERRING to your letter without date, beg to advise that samples of pencils were received and same have proven satisfactory. We expect to designate these pencils in our next order. Thanking you for your promptness in sending samples, I am."

"WITH reference to your letter of the 21st ult., the sample of drawing pencils has been received, and after a thorough trial the writer wishes to state that he has found them to be of high quality, the graphite being uniform in quality, and the wood covering straight grain, and that we consider the pencils to be as good if not better than any we have ever used."

"YOURS of the — received together with pencils, and I want to say that they are one of the best if not the best pencil I have ever used. What I like about them is that you can sharpen them with a long point and they will hold that point for a long time. Now that I have found a pencil 'made in America,' I will use no other."

"I HAVE received the package of pencils and have found them very satisfactory. I have never been one who believed that an imported pencil was the only thing to use in a drafting room, consequently have in the past used with success several domestic pencils, and it is in comparison with these as well as with some of the older imported grade that I have judged."

"I HAVE your letter of —, and am sorry that I have not been able, prior to this date, to acknowledge receipt of same. Nevertheless, the pencils you forwarded me were received, and can say that I have placed an order for a good supply. It has never been my fortune to procure a white pencil that can compare with the one you were kind enough to send to me."

"I THANK you for samples of pencils recently sent me and wish to inform you that I have given them a thorough trial and find that they are all you claim them to be. For smoothness and lasting qualities I think they are in a class by themselves."

"YOUR sample pencils 6H, 9H, and 352 have arrived and give good satisfaction, and I will endeavor to boost whenever I can have an opportunity. Thanking you."

"I WISH to thank you for samples of ELDORADO pencils mailed to me at 1224 Cornelia Avenue, Chicago. Am pleased to see finally that Americans are writing with pencils made in the U. S., instead of those made in Germany and in Austria. I think the ELDORADO are fine and hope your sales increase to such an extent that — and — are forever barred from our country."

"I HAVE been trying your Dixon's ELDORADO drawing pencils and desire to say that I have found them equal to any pencil that I have used, not excepting the famous —. In texture of lead I can't imagine that one would want anything any better than you have in the ELDORADO, and I shall specify this pencil for our use in the drawing classes at the college here."

"SAY to your pencil man that he does n't have to wait for my opinion regarding Dixon's ELDORADO pencils. Sufficient to say that for the past fifteen years I have been fighting our Purchasing Department to make them furnish me, for my own personal use, American Graphite SM No. 2 pencils. Sometimes I get them and sometimes I don't. When I don't I keep right on hammering them until I do, which tells its own story."

"YOUR favor of recent date received. Yes, I received the sample drawing pencils and find the ELDORADO exactly suited to my requirements. I shall certainly specify them on my next order."

"ANSWERING your letter of recent date regarding the samples of Dixon's ELDORADO and BEST WHITE pencils which you so kindly forwarded to us, we beg to report that these pencils have been found very satisfactory and we have since placed an order with —."

"IN answer to your letter, would state that we have received your samples of ELDORADO pencils and have found them very satisfactory and intend to order same as soon as our supply runs out."

"IN reply to your letter, I am pleased to state that the sample of Dixon pencil which you sent was entirely satisfactory. We will undoubtedly use these pencils during the coming winter."

"YOUR samples of Dixon's ELDORADO pencil received and given a trial. They are by far the best pencil we have had in our office and we have given them all a trial. We are using ELDORADO exclusively now; it is just the pencil we have been searching for and could not find. We are supplied with the ELDORADO through —."

"WE acknowledge your favor of the 21st ult. with reference to samples of your ELDORADO pencil. These proved very satisfactory. We have had much difficulty with pencils in which the lead has been very brittle after reaching about one half of the pencil. This defect was not noticeable in your samples, so our next order will specify Dixon's pencils."

"REPLYING to your recent letter, I beg to say that I have used the samples of drawing pencils which you sent me a few weeks ago, and find them to be equal if not superior to any drawing pencil on the market."

"WE are very much pleased with the samples of Dixon's ELDORADO pencils which we received from you some time ago. Our office force is rather small just at this time because of the war, but I assure you that the next order for pencils will be Dixon's ELDORADO."

"RECEIVED your samples of ELDORADO master drawing pencils and Dixon's BEST WHITE pencil for writing on blue prints, and have found them to be entirely satisfactory. Find that the BEST WHITE is far more satisfactory for blue prints than the red pencil commonly used."

A Red Cross Christmas

TO THOSE WHO FEEL POOR

I write as your brother.

We are a large family.

This world-war, made in Germany, against which we are fighting, has sent our incomes down and our expenses up.

The pinch hurts, but it is not going to kill us.

We still have enough and something to spare.

Though we feel poor, don't let us be impoverished by selfish fear!

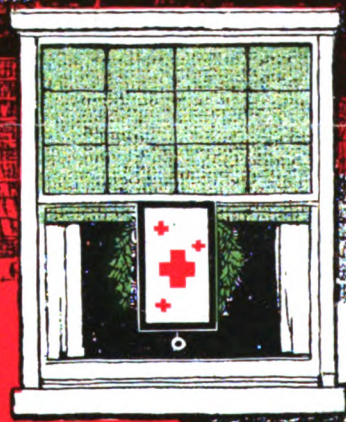
Let us save in food, in service, in clothes, in luxuries and joy-rides—but not in money!

Let us use that by giving it to save the wounded, the suffering, our friends, our country.

Let us keep Christmas this year by keeping up the Red Cross.

Then it will not be a poor Christmas, but a rich Christmas to our hearts.

Henry van Dyke



Here is a Red Cross Service Flag that will be in the windows of millions of American homes this Christmas. It must be in yours—your service flag with a little cross for every member of your household. The nearest Red Cross chapter will give you your flag—it goes with every one dollar membership.

A Service Flag for every Family to make this a RED CROSS Christmas of Mercy

ON this, our country's first Christmas, in the most terrible of all wars, there should be a Red Cross Service Flag in millions—fifteen millions—of homes at least.

When your membership dollar is sent on its errand of mercy, a work of relief, which is the noblest thing in the world today, is aided.

Your Red Cross does not ask you at this time for large contributions.

It asks you to become part of it. Your Red Cross asks you to be one of ten million more Americans to give one dollar toward world relief.

The merest outline of Red Cross work could fill this whole magazine—go to your local Red Cross chapter—have your rightful share of service. The Christmas spirit is the Red Cross spirit. Let a greater Red Cross be America's Christmas gift to our boys and our Allies.

What is Your American Red Cross?

An all American, largely volunteer organization devoted to practical service to suffering mankind—in times of peace as in times of war.

Congress authorizes it.

President Wilson heads it.

The War Department audits its accounts.

Pershing in France approves it.

It is working for your Army—your

Navy—your Allies.

It is working for you.

Join the Red Cross now—start your \$1 on its errand of mercy. Be a member—it is your right

Ten Million New Members

The Publishers of Graphite have donated this space to the American Red Cross in the belief that its readers will heartily respond.

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Graphite

VOL. XX

JANUARY, 1918

NO. 1

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JAN 21 1918

*What
Harrison Fisher
thinks of
Dixon's Eldorado
"the master Drawing pencil"*

New York, November 17, 1917

Joseph Dixon Crucible Company,
Pencil Department,
Jersey City, N. J.

Gentlemen:-

I am glad to take this opportunity
of congratulating you upon the very excellent
quality of Dixon's ELDORADO - "the master draw-
ing pencil".

It has all of the characteristics
of an ideal drawing pencil, and especially a
peculiar responsiveness which enables me to
readily secure any desired expression or ef-
fect.

You have produced indeed "the master
drawing pencil".

Respectfully,

Harrison Fisher

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JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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The Feel of a Master Pencil

Every artist knows the feel of a master pencil—a pencil that glides over the paper without break or catch—as perfect in response to his will as his own hand.

DIXON'S ELDORADO

"the master drawing pencil"

is in every sense of the word an artist's pencil. The softer leads are smooth, soft, responsive and rich in tone. Their marks may be readily erased without "graying" the ink. The harder leads hold their points unusually well and stand great pressure without breaking.

17 degrees, each true to grade, and not a grain of grit in any one of them. Write us on your letterhead for free full length samples, mentioning degrees used.

**JOSEPH DIXON CRUCIBLE
COMPANY**

Dept. 190-J

Jersey City, N. J.

DIXON'S "ELDORADO" the master drawing pencil - HB





To DIXON Pencil Salesmen

OUR best wishes to you for 1918. May you have that peace and contentment that comes from the consciousness of a useful work thoroughly done.

Let us all get thoroughly imbued with the true ideals of salesmanship. Let us keep ourselves reminded of our duty and responsibility as salesmen, aside from any question of financial compensation. The automobile, the electric lamp and the sewing machine were never of any value to the world until they were sold and put into actual use.

This is equally true of Dixon's ELDORADO—"the master drawing pencil." No matter how par-excellent you or we or thousands of representative men and women may regard this pencil, our duty to society as salesmen will not be fulfilled until every person whose work demands a pencil of the first quality has had an opportunity to *know* the ELDORADO. And, as you know, in the technical field especially, where men are working under the highest pressure, there are many, not yet familiar with the ELDO-RADO, who are "hungry" for a pencil of its quality.

PENCIL DEPARTMENT.

A Triumph

DIXON'S ELDORADO, "the master drawing pencil," by reason of its quality has been referred to as an *American achievement*.

We believe it may be considered as a *triumph* that we received recently an order for 418,900 Dixon's ELDO-RADO pencils. This, to the best of our knowledge, is the largest single order ever placed in this country for high-class drawing pencils.

418,900 ELDORADO pencils put end to end would extend for forty-six miles—or just about half the distance between the cities of Philadelphia and New York.

The previous gratifying results given by Dixon's ELDO-RADO, "the master drawing pencil," were responsible for this order, even though the price bid was necessarily higher than that quoted on all other drawing pencils.

It's Often This Way

THE jury had been locked up for hours. At last the officer of the court (who shall be nameless) was instructed to provide refreshment. "Shall I order twelve dinners?" he said to the foreman. "Make it eleven dinners and a bale of hay," replied the weary foreman; "we have an ass here."

To Our Patrons and Associates

Jersey City, N. J., *War Period*.

THE following letter has been sent out by one of the largest manufacturers in this country, and it has our unqualified endorsement.

We earnestly solicit the coöperation of our patrons in this worthy "War Measure" to ELIMINATE WASTE, inaugurated by the War Committee on Office and Credit Economics.

"Every duplication, every unnecessary movement must be eliminated, so that business men can do their bit to help America win the war"—this is the country-wide campaign being launched.

THE ELIMINATION OF UNNECESSARY CORRESPONDENCE is the first request made, and in our endeavor to help we ask the coöperation of our patrons.

1. INQUIRIES AS TO HOW SOON WE COULD FILL AN ORDER, IF PLACED, cannot be properly answered, as we do not know what stock we shall have on hand when the order is received.

2. REQUESTS TO RUSH SHIPMENTS ARE UNNECESSARY, for we fill orders as promptly as possible, and cannot ship unless we have the goods in stock. Owing to the difficulties of manufacturing, our factory finds it impossible to make promises, and all we can do, therefore, is to reply that we shall expedite shipment. This we should do without correspondence, for we make a particular point of looking after the interests of our many customers.

3. TO SHIP AT ONCE FROM A FUTURE ORDER creates much unnecessary labor and only causes delay. We therefore respectfully request that no CHANGES be made, and if goods are required "at once," that a new order be placed, which will be shipped as soon as we have the stock.

4. CANCELLATION OF ITEMS also causes much unnecessary labor, and further retards our effort to ship promptly.

Very truly yours,

JOSEPH DIXON CRUCIBLE COMPANY.

J. H. SCHERMERHORN,
Vice-President.

Crankcase Lubrication

WITH cold weather approaching, truck owners and those selling trucks and those handling garages where trucks are stored must meet the problem of crankcase lubrication due to dilution from the heavier particles of the gasoline not being burned in the cylinder but leaking past the piston ring and mixing with the crankcase oil. This was a very serious problem last year, and it is going to be just as serious this year unless you prepare for it.

Last winter analysis of crankcase lubricant showed as much as 45 per cent. of it to be kerosene, and in some cases only 37 per cent. of the lubricant was really effective lubricant. Truck owners met the situation last winter by changing the lubricant in the crankcase every week in real cold weather, changing it every two weeks in medium and cold weather and changing it every month in the summer. This was not entirely satisfactory and at the same time was expensive. In addition, many owners added hot air pipes to carburetors and made adjustments to meet the new conditions.

The leakage of the heavier kerosene into the crankcase largely takes place before the engine is heated up when starting after a cold night or long stop. Practically all of the damage is done in the short time needed to get the engine warm. Here is about what happens: The heavy kerosene particles in the fuel are not vaporized when drawn into the cylinders, but really enter as globules of kerosene. In the combustion they are not burned, but collect on the cylinder wall and cut off the film of cylinder oil. With this film gone it is reasonably easy for the kerosene then to work its way down past the piston rings. Once the oil film is completely cut off, it takes some time for it to build up, especially with the kerosene particles working against it. As soon as the engine is hot the fuel is handled better, the kerosene particles are perhaps almost or entirely eliminated and the crankcase lubricant is no further injured, but by this time the injury has been done. It takes only a few minutes each morning to do the job.—*Motor Age*.

The above trouble is common only to those car operators who have not learned how to use selected flake graphite in engine cylinders. By introducing Dixon's Motor Graphite to cylinders through the carburetor or the intake manifold, dry flake graphite of the finest quality is deposited evenly on the rubbing surfaces. The coating is not affected by kerosene or gasoline and hence is not washed off the cylinder walls. The coating increases compression and prevents kerosene working down past the rings to the lubricating oil in the crankcase. The coating is non-frictional in character and hence permits an engine to operate easier and to produce greater power with the same amount of fuel.

In other words, graphite saves fuel and improves engine performance. If some local mossback cautions against the use of graphite, we will be glad to tell you where Dixon's Motor Graphite should be used and how to use it.

Wise people use it wisely.

Military Bridges

"A BRIDGE, to be of military value, must bear a load of at least 15 tons. In case our roads should be needed for military purposes, a tremendous number of our bridges would have to be rebuilt by army engineers."

The above quotation is taken from an article relative to military preparedness, and the necessity of having road bridges strong enough to bear loads of at least 15 tons. A

bridge perhaps originally strong enough to bear such a load may easily become greatly weakened by neglect and the fact that rust has been allowed to eat its way around the rivets and the parts bearing a strain of loads.

Every bridge constructed, whether of metal or wood, should be properly and thoroughly painted with a preservative paint that will successfully resist the corroding action of the elements of dust and moisture.

Dixon's Silica-Graphite Paint, composed as it is of a pure silica-graphite pigment of flake formation, thoroughly and most carefully ground with pure boiled linseed oil, has been a well-known preventive of corrosion of metal surfaces, and has been used in all parts of the world during a period of over fifty years. It may well be called the Standard Protective Covering.

Export Business During the War

WE read in the *American Machinist* that:

"England has realized the imperious necessity of continuing her export activities to an extent which is compatible with her participation in the war. Several of England's greatest industries have continued to manufacture products for foreign markets in quantities hardly surpassed in times of peace. This trade has enabled that country not only to strengthen her already firm hold on her export markets, but has, furthermore, provided a source of revenue that has been of inestimable aid in enabling her to bear the financial burden of the struggle. To such an extent has that country gone in protecting this trade that English manufacturers, in many cases, have been delivering with fewer delays than has been the case with North American manufacturers, in spite of the war-time burdens which England was forced to bear.

"Germany realized the danger of abandoning the foreign markets to her competitors and prior to the struggle filled the custom houses of South America with merchandise evidently calculated to supply the demands of those countries for the duration of the war. Even in the heat of the struggle, no possible outlet for exports was overlooked, and hardware in cases marked 'Made in Switzerland' and many other forms of merchandise arrived in Buenos Aires long after the world in general believed that Germany was entirely cut off from those countries. So that even to-day, after three years of war, German merchandise is still obtainable in South America. I bring up these points merely to demonstrate the value which other nations place on their export business and the extent to which they have gone to preserve it during the period of trial.

"Least of all should the United States neglect the opportunity for national expansion which has been presented and which is not only of inestimable value, but also of necessity. The position of American business men in regard to foreign trade is much more advantageous than it was three years ago. Many of the facilities the lack of which formerly acted as a great handicap to the exporting house, are now available and others will come when normal conditions prevail."

The Salt of Life

FATE doesn't take our order, but serves a table d'hôte, And each of us must eat it like a man.

The salt of life is humor; without it all is flat—

The wise chap puts a pinch in where he can.

—*The Times of Cuba*.

24 Eminent Artists and One Opinion

New York, November 1st, 1917

Joseph Dixon Crucible Co.,
Pencil Department,
Jersey City, N. J.

Gentlemen:

I am glad to congratulate you
upon producing in Dixon's ELDORADO -
"the master drawing pencil" an American-
made article which is at least as pleasing
to me as the imported drawing pencil which
I formerly used.

Respectfully,

Harrison Fisher

Howard Chandler Christy
Albert Hertel

The Reeses J. N. Alden Richard T. Maynard
Frederick Duncan
Hamilton King

R M Binkhoff

D. Graham Cross
Win Temple Cooper
Aston Knight

Edw H. Pollock

A. L. Hall

Wm J. Whittemore

Matthias Sandorj
Alexander Shilling

Wm J. Whittemore

Halter Russell

Amos L. Dodge
Neyan Moran McWinn

Tulia Daniel
J. E. Fraser

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Dec 1917

This is to congratulate
 you on the excellent quality
 of your Eldorado Master drawing
 pencils which I find better
 adapted to my use than
 any other I have tried.

Very truly yours

Howard Chandler Christy

to the also Artists.

to C W G T & L Ltd

ELLIOTT DAINGERFIELD
GAINSBOROUGH STUDIOS
222 WEST 50TH ST.
NEW YORK

Joseph Dixon Crucible Co.
Jersey City - N.J. Nov. 27th '17

Dear Sirs - I have made an exhaustive list of the Eldorado pencils, & the Colored Crayon Pencils left with me, and I find them quite perfect. The pencil leads are smooth as velvet - even - and not crumbly or brittle. I have adopted them both heart & hand, & I may add patriotically. The Colored Crayons merit a mention on the part of artists of long standing and drawings made with these Crayons have a charm & permanency which gives them great value. I am recommending them to schools & institutions wherever I have influence. I am Very Truly
Elliott Daingerfield

Growing Big

And Safeguarding the Future from Over-
whelming Competition, is to Have Big
Ideas for the Future and Build
and Organize for It

WE quote John Lee Mahin, a man known throughout the United States, and perhaps beyond it:

"A little girl said that rich people thought more of money than poor people, and that was probably why they had more of it.

"If a business starts small and grows big, the man behind it must hold big ideas of its future.

"Unless big men secure the coöperation of the strongest forces outside their own organization, competitors will surpass them.

"Big men in industrial lines are today considering the future. Those among them who are wise and who are desirous of safeguarding the people they represent, are most carefully considering and planning for an export trade, in addition to whatever increased growth they may hope to obtain in domestic trade.

"Capitalists are considering investments, especially in Latin America, for the reason that England, as an instance, owns 75% of all the railways in Argentine, and it is understood when the money is loaned that supplies for the industries for which the capital is invested shall be purchased where the money originated.

"It is, therefore, difficult, if not impossible, for a manufacturer in the United States to secure business from any industry in Latin America where foreign capital dominates the investment."

Representatives of foreign colonies throughout the world are visiting New York with a hope of increasing direct trade. Among the many questions asked is, "Why do American manufacturers buy their Australian wool through London, and not direct?" Similar questions relative to other products are asked, but not always answered.

NOTHING of us belongs so wholly to other people as our looks.—Glover.

Think Well of Yourself

THINK well of yourself. Be good to yourself. You are very important to you. In you are all the elements of a successful man. You have within you the latent force that will lift you successward.

Don't pity yourself. Don't lessen your own value in your own eyes. Have confidence in yourself. Believe in your own ability to do big things. Only by having faith in yourself can you compel others to have faith in you.

Treat yourself as a man of worth. Demand much of yourself. Be your own hardest taskmaster. Be determined to better the work you are doing.

Show how you can produce more at less cost of mental and physical energy. Prove that you can sell more of your product at a profit. Think big thoughts and back them up with big deeds. You can when you will. You will.—Thomas Dreier.

When Will the Price Break Come?

MR. SAUNDERS NORVELL, an old-time friend of the Dixon Company, and a most valued customer before he retired from the firm of Norvell, Shapleigh Company of Saint Louis, spoke some time ago before the Advertising Club of New York on the above subject. He said:

"My idea is that at the end of the war the first effect will be a psychological one. There will be false information, panic, speculators seeking cover. This will result in a sharp and sudden decline in prices.

"Then the law of facts, or actual supply and demand, will come into play. It will then probably be found that deliveries cannot be obtained at the panic prices. Merchants needing the goods will have to bid for them.

"Then there will be recovery. This recovery may bring goods back almost to their original prices."

DON'T waste so much time crying over spilled milk that you forget to go after the cows at night.—The A. V. Haight Co., Poughkeepsie, N. Y.

As this world goes, reluctance to fight on the part of a strong nation implies, also, a determination, when once war is undertaken, not to recede until the point in dispute has been definitely settled for all time.

LAZINESS travels so slowly that Poverty soon overtakes him.—Franklin.



An Attractive Window from Omaha, Neb.

Movie Fans Fooled

WHEN we saw Jules Verne's "Twenty Thousand Leagues Under the Sea" on the screens we felt that fiction had become truth, and that it was possible with the aid of modern science really to travel under the sea to fight with real devilfish, and to see the wonderful common things and animals on the floor of the ocean.

Now, through the enlightenment of a lawsuit, we know, according to the daily papers, that the octopus was largely a rubber ball, but big enough to hold divers inside among its "innards" to work its tentacles. And the tentacles were made of the common or garden variety of hose, with springs along their inner length so that the divers could make the tentacles wobble a bit.

Then we learn further, that the man who is suing the movie people built a shell of a submarine out of canvas and things and stuff about 100 feet long, which was floated on the surface by means of three air tanks concealed under the shell.

Then when it came to finding a submarine that would "sub" while the rubber octopus was doing his part, the man built a baby submarine, which was at least watertight, 32 feet long. That was big enough to hold one sailor to work the hand propeller and another to handle the rudder, both sailors being concealed inside the baby submarine.

Those of us who went to the movies got the impression that the submarine was actually moving. Instead, we are told, the camera and not the submarine was moved along under the sea to make the movie fans believe what they wanted us to believe.

There is another thing that we did not notice, and that was that the octopus on the screen had only six rubber tentacles, whereas a perfectly good octopus in real life owns eight. The reason given for the movie octopus having only six, was that if it had had eight it would have meant two more men in the octopus to move the tentacles, and there wasn't room for them.

Rust

Contributed by Paint Department

WILLIAM JOSEPH SHOWALTER, a noted authority, comprehensively discusses the steel industry as related to the present war, in the *National Geographic Magazine*, August, 1917.

Mr. Showalter says: "Government experts have estimated that 23% of all iron and steel is destroyed each year through rust, a truly appalling waste to contemplate."

Everyone interested in winning the war should eliminate this 23% waste of metal. That lost 23% might be the preponderance that will beat Germany, Turkey, Austria, and Bulgaria. Save metal in America by protective painting.

Dixon's Silica-Graphite Paint costs the least per year of service in labor and material because it LASTS LONGER. Dixon paint records run from 7 to 20 years in all parts of the world. We make ONE QUALITY only—the BEST.

To put off painting is penny-wise and pound-foolish policy. Retrench in luxuries, not in necessities. Use Dixon's Silica-Graphite Paint and save this 23% loss of metal each year and thus help win the war by PREPAREDNESS IN YOUR PROTECTIVE PAINT POLICY.

Don't waste labor by having to paint often through using a paint that is "cheaper per gallon."

Remember, while Dixon's Silica-Graphite Paint may cost a little more per gallon, for the few cents more Dixon's gives you assurance of many more years of paint service.

Support your Government by listening to its patriotic warnings. We repeat Mr. Showalter's thrilling words: "Government experts have estimated that 23% of iron and steel is destroyed each year through rust, a truly appalling waste to contemplate."

Disciples of Isaac Walton

READERS of GRAPHITE may be interested to know that there are many who are as deeply interested in the love of fishing as ever. On a certain Sunday in the early part of December, there were fifty-one vessels advertised to start on fishing trips early on that Sunday. They ranged all the way from one of the big Iron Steamboats, down to small steamers that were yet big enough to go out on the ocean to the cod-fish banks.

Of these fifty-one steamers, none started later than 8 A.M. Quite a number left the dock at 5 A.M., others at 6 A.M., others at 7 and 8 A.M. Fishermen could be sure of getting a boat to carry them to the fishing grounds.

Among the industrious fishermen might have been found representatives of the Dixon Company, who brought home their share of the day's fishing.

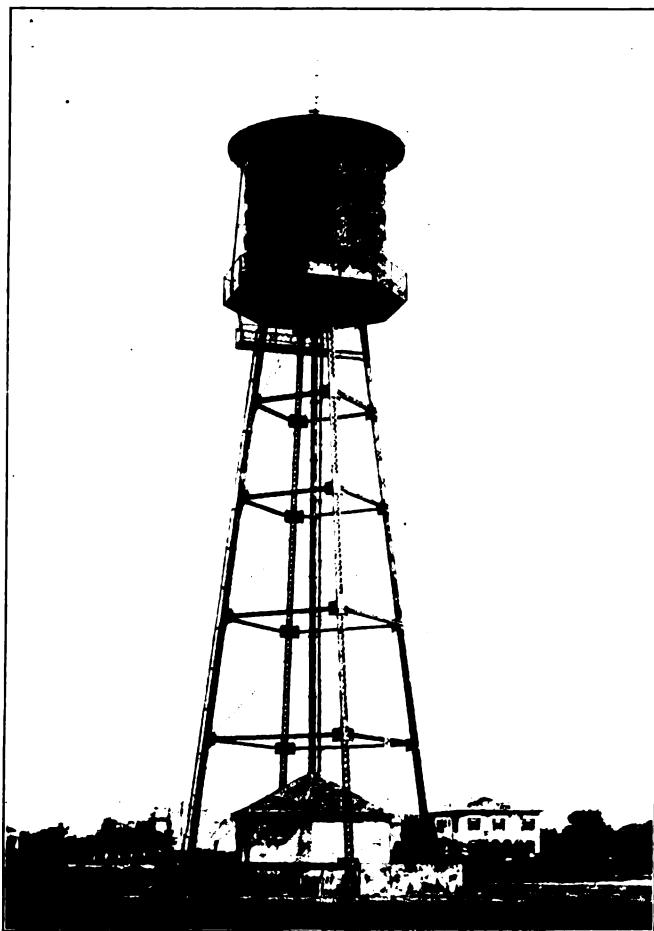
Among the numerous advertisements in this same column was one: "Wanted, Sand Worm Digger; apply to —."

When a man gets up long before sunrise on a cold winter's morning and goes a-fishing, he either needs the fish or loves the sport.

◆ ◆ ◆

WHEN Samuel Johnson in 1758 said that shorthand merited a much higher rank among the arts and sciences, and that it was "by no means unworthy the attention of men of genius and erudition," he expressed a truth which has been but slowly recognized. It is very generally known that President Wilson is able to write shorthand.

John Wesley, founder of Methodism, who wrote over two hundred books and delivered upward of fifty thousand sermons, was an expert in shorthand. We are all familiar with the fact that Charles Dickens, the universally beloved novelist, was a reporter and a writer of shorthand. Our own Benjamin Franklin was a writer of shorthand, and in his autobiography mentions the value of shorthand. Among many others we find as writers of shorthand: Henry Ward Beecher, Edward Everett Hale, James Madison, Isaac Disraeli and other great men of letters.—*The Shorthand Writer*.



Water Tower, Richmond, Virginia

THE structure illustrated above is owned by the city of Richmond and is located at William Byrd Park. The tower is 162 feet high. The tank is 30 feet high and 30 feet in diameter, making its capacity about 160,000 gallons.

When the question came up of protecting the steel work of the tower from rust and corrosion by the storms, it was decided by Mr. Joseph V. Siler, Contracting Painter, and the City of Richmond officials in charge, that the only paint they would consider should be one based on service and not on price per gallon. There was no hesitation in selecting Dixon's Silica-Graphite Paint.

Water concerns, municipalities, railroads, the world over, are large users of Dixon's Silica-Graphite Paint.

Write our Paint Department for additional information in connection with the four P's—Proper Paint Protection of Property.

Impression

IT has been said that the man that eventually lands a job is the one who makes the best impression first. This is so true that it seems unnecessary to say it; but it is surprising the number of applicants for positions who do not know it, or do not give it a thought. A man may be a high-class salesman, or engineer, or chemist, or even a bookkeeper, yet, if he does not make a good impression personally, or if he does not make a good impression through his letter applying for a position, in the wording of the letter or in penmanship, he is more likely to be set aside perhaps to give way to a man of less ability, yet who makes a good impression either through his personal appearance or through his application.

This idea is very fully elaborated upon in *Power Plant Engineering* under the caption of "Answering an Ad."



A "Dixonized" Ford

The Big Men

THE big men dare, and the big men do,
They dream great dreams, which they make come true;

They bridge the rivers and link the plains,
And gird the land with the railway trains;
They make the desert break forth in bloom,
They send the cataract through a flume
To turn the wheels of a thousand mills,
And bring the coin to a nation's tills.
The big men work, and the big men plan,
And, helping themselves, help their fellow-man.
And the cheap men yelp at their carriage wheels,
As the small dogs bark at the big dogs' heels.
The big men sow while the cheap men sleep,
And when they go to their fields to reap,
The cheap men cry, "We must have a share
Of all the grain that they harvest there!
These men are pirates who sow and reap,
And plan and build while we are asleep!
We'll legislate till they lose their hair!
We'll pass new laws that will strip them bare!
We'll tax them right and we'll tax them left,
Till of their plunder they are bereft;
We'll show these men that we all despise
Their skill, their courage and enterprise!"
So the small men yap at the big men's heels,
The fake reformer with uplift spiels;
The four-eyed dreamers with theories fine,
Which bring them maybe three cents a line;
The tin horn grafters who always yearn
To collar coin that they do not earn.
And the big men sigh as they go their way;
They'll balk at the whole blamed thing some day!

—Walt Mason.

Miscellaneous Graphite Bouquets

"HAVING handled your line of Graphite Automobile Lubricants for some years past, we take great pleasure in recommending these products, as they have given us utmost satisfaction, and we have yet to hear a single complaint thereon. We furthermore commend you on your coöperation with the jobber."—*C. & D. Auto Supply Co., W. G. Thorman, Manager.*

"I RECEIVED the graphite ordered a few days ago. Graphite is now used on all three of the cars I take care of, except in the motor oil. The longer it is used the better I like it.

"Motor Graphite was introduced to the cylinders of our 1914 Cadillac through the carburetor and I notice the compression has increased considerably. I also do not worry about fouled spark plugs any more.

"Every time any one talks lubrication to me I tell them to write to Dixon and you will give them proper instructions.

"With the exception of cylinder oil, which you do not make, there are no lubricants in my garage except Dixon's. They last longer and banish friction."—*Harold Coleman, Montclair, N. J.*

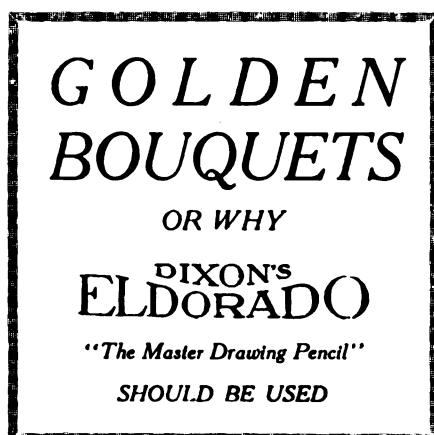
"I HAVE been using your Cup Grease No. 3 ever since I had my car and it has given such good satisfaction that I would be very glad to receive any advice as to the use of your other products. My auto is a 1917 Buick, Model D-4-34."—*Chas. W. Diamond, Rochester, N. Y.*

"A RATHER pleasing incident occurred yesterday when a customer of ours inquired for graphite of a competing make. We informed him that we did not handle same but were in a position to give him Dixon's.

"He did not hesitate at all in telling us that he preferred Dixon's grease but had heretofore been unable to secure same from his usual source of supplies. He mentioned that there were several of his friends who would be only too glad to know where Dixon's greases could be purchased.

"We hand you this information for what it is worth, as we believe it is but another indication of the real popularity of your product."—*Missouri Auto Specialty Company.*

THE greatest homage we can pay to truth is to use it.—*Emerson.*



"REPLYING to your inquiry relative to ELDORADO drawing pencils, we are pleased to advise you these are giving us first-class satisfaction."

"I RECEIVED your samples and they gave me so much satisfaction that I now use only the ELDORADO."

"It gives me great pleasure to write you in appreciation of the quality of your Dixon's ELDORADO and your BEST WHITE drawing pencils which I received recently. The men of this office are pleased with the results obtained from the use of such pencils and believe them to be equal if not superior to others used by this department."

"YOUR samples 4B, 2B, HB were received. They seem to work very satisfactorily."

"WE wish to take this opportunity of thanking you for the recent samples of your ELDORADO drawing pencil which you so kindly gave us to try, and we also desire to say that we are very well pleased with them. Freeness from grit, smoothness in writing and drawing, durability and distinct mark they leave are among the features that especially commend them to the constant user of pencils. Again assuring you of the satisfaction that their use has afforded us, we beg to remain," etc.

"PLEASE accept my thanks for the sample box of your very fine lead pencils sent me. They are all you claim for them, a combination of 'tone,' quality and serviceable strength. I shall be glad to recommend them."

"IN reply to your letter of the 15th inst., we would advise that the samples of Dixon's ELDORADO pencils submitted have so far proved entirely satisfactory."

"THANK you for the generous samples of pencils. They are very good and I will order them in the future."

"I BEG to acknowledge receipt of your favor of the 29th ult. and the three ELDORADO drawing pencils. I have always confessed to my inability to do anything with 'the point'—that is, drawing with a pen or pencil—but only with the brush. Your pencils lead me to hope that I may overcome this lack of coördination or sympathy. They have all the suavity of the brush with the definiteness of the pen."

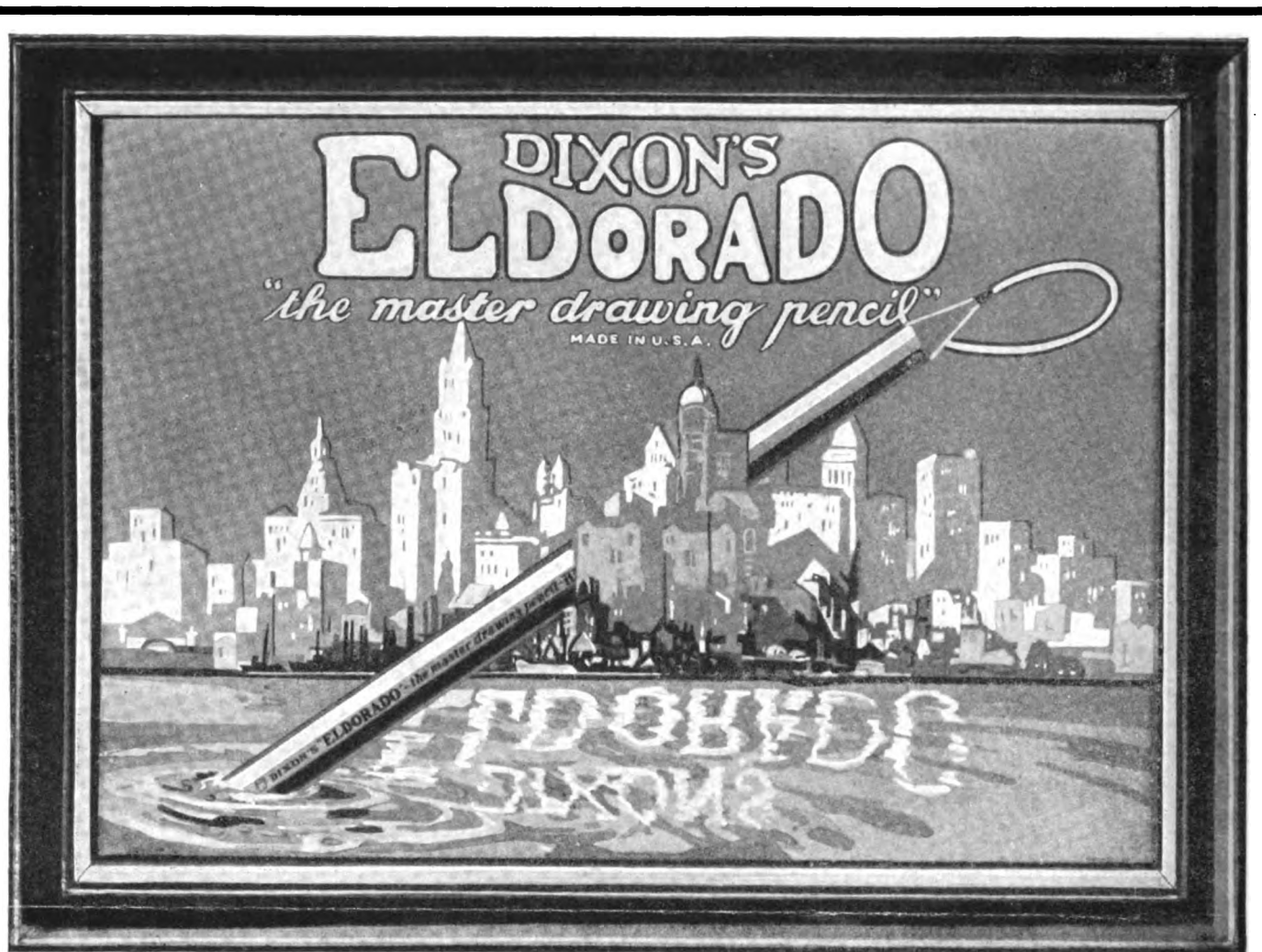
"SOME time ago I received samples of Dixon's ELDORADO drawing pencils and find them the equal of a pencil of the shape and color which was considered a standard, showing America has taken the place belonging to her."

"REFERRING to those drawing pencils which you gave me several days ago while at your office, and which in turn you desired me to distribute amongst our sketch artists, beg to state that your request was complied with and the several statements which I received from these men regarding these pencils were indeed very gratifying. They state that they have found them to be the finest pencil for drawing purposes they have as yet run across, and that they fulfil their mission fully."

"I AM to-day in receipt of samples of ELDORADO drawing pencils, one HB, one H and one 4H, and wish to say that they are fine. I have been a user of Dixon's pencils since 1875. When in Canada we bought the SM pencil in round black and paid ten cents each for them, when others were selling for five cents. I have always found them just as represented, and also that the leads were the only ones suitable for marking on hard woods such as hickory and ash."

"YOURS of October 3d is at hand. The samples of ELDORADO and BEST WHITE were duly received and I have found them in every way satisfactory. I have been using the Dixon pencils for a good many years and always found them good."

"IN reply to your letter of the 4th inst., in reference to drawing pencils: The samples were received, tried out and found very satisfactory in every respect and will continue to use them. I shall find it a pleasure in recommending your pencils to prospective buyers."



A Quality Window Display of

**DIXON'S
ELDORADO**
"the master drawing pencil"

MERCHANTS place a high value on their window space. It is a part of their sales equipment. It is only natural, therefore, that they are anxious to secure window material which attracts favorable attention to their store, aside from its value in presenting individual articles of merchandise.

To feature "the master drawing pencil" we wanted a master quality display, and such a display is reproduced herewith, though the reproduction cannot possibly do it justice. The scene shows a mammoth ELDORADO pencil coming out of the Hudson River, and shooting through the New York sky-line. It is a beautiful piece of art work unilluminated, but when illuminated is still more impressive. You then have the mammoth ELDORADO pencil standing out conspicuously against the New York sky-line, and you see emblazoned in the sky "Dixon's ELDORADO—the master drawing pencil."

Dealers in artists' materials and stationery desiring the loan of one of these unusual displays will kindly address the

JOSEPH DIXON CRUCIBLE COMPANY

Jersey City, N. J.

Dept. 190-J



ESTABLISHED 1827



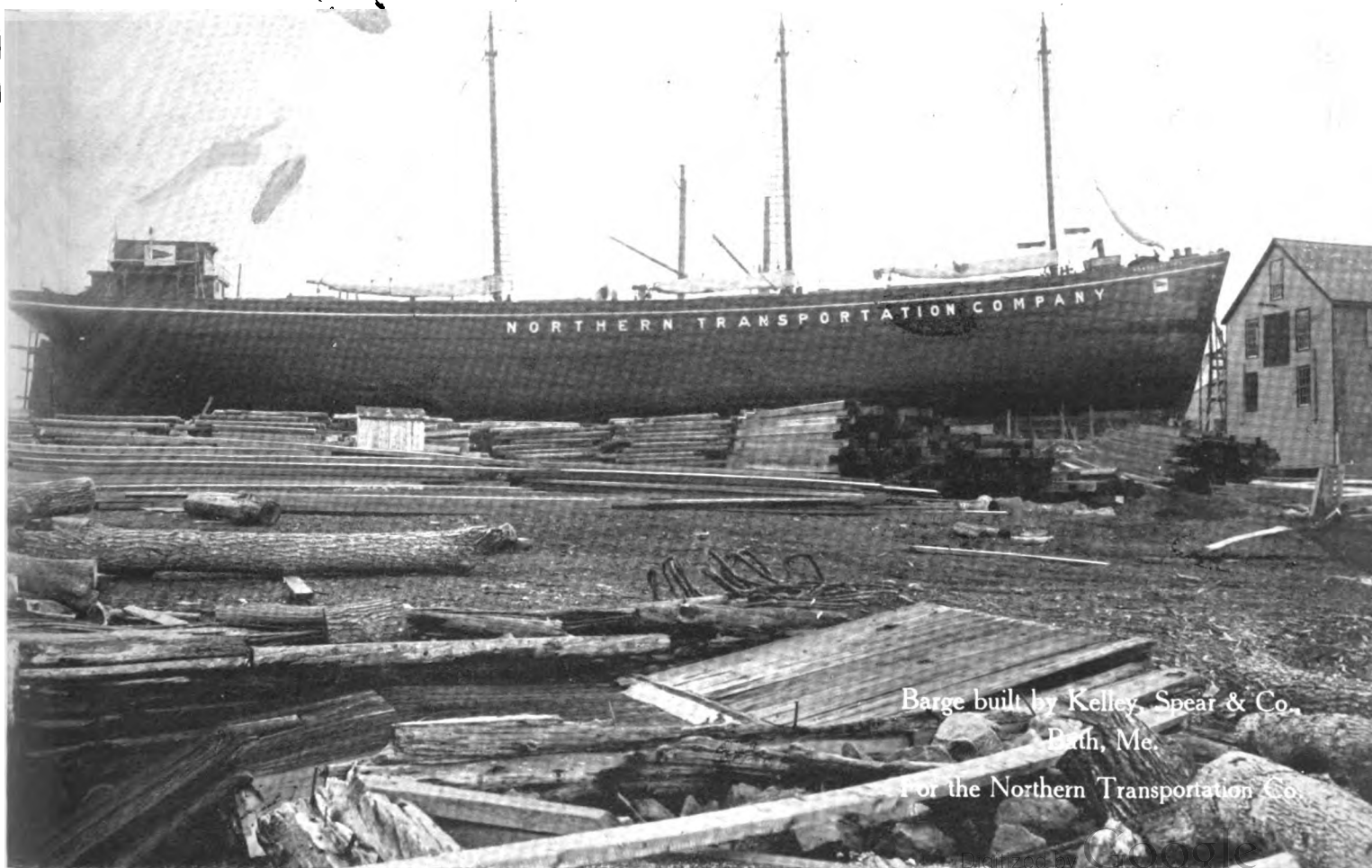
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Graphite

VOL. XX

FEBRUARY, 1918

No. 2



Barge built by Kelley, Spear & Co.,
Bath, Me.
for the Northern Transportation Co.

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED
1827

Jersey City, N. J., U. S. A.

INCORPORATED
1868



*Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead*



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William Croft, Room 424 Lonja del Comercio, Havana

PORTO RICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS
H. Glyde Gregory, Royal Bank Building, San Juan

LATIN-AMERICAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.
National Paper and Type Company, 31-35 Burling Slip, N. Y.
With Branch Agencies in Mexico, Cuba, Peru, Argentina,
Uruguay, Venezuela, Porto Rico and Colombia

CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.
A. R. MacDougall & Co., Ltd., 266-8 King St., West,
Toronto, Ontario, Can.
FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS
Canadian Asbestos Company, Montreal, Quebec, Can.

This Booklet Will Show You the Way to Better Lubrication

It tells you what causes Friction and explains how graphite lubrication is the best method of combating Friction's wear and tear.

It also shows some of the types of engines on which Dixon's Flake Graphite is being used and methods of successfully introducing it into cylinders. It proves why

DIXON'S Ticonderoga Flake Graphite

minimizes Friction and helps your peace-of-mind.

Lubrication costs should be studied closely at this time. If better and more dependable service can be had at far less expense by applying modern principles of graphite lubrication, why continue in the old way?

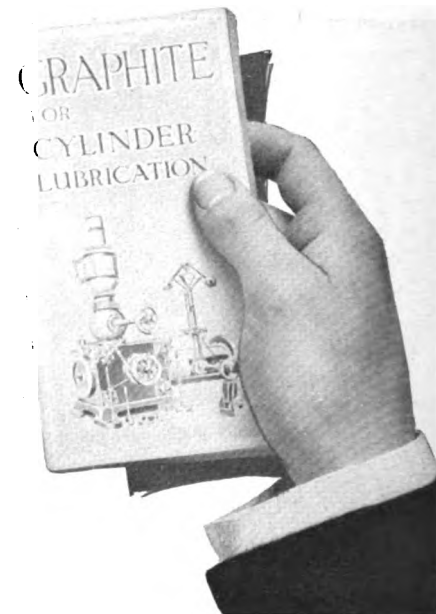
Send now for this Booklet No. 190-C and learn how you can reduce lubrication costs

MADE IN JERSEY CITY, N. J., BY THE

JOSEPH DIXON CRUCIBLE COMPANY



ESTABLISHED 1827





LOW visibility and service are important points when choosing a paint. Ornamentation is not always the

first consideration. It may be more important to soften the lines and blend the color into the horizon.

For instance, it may be important not to emphasize a house in the woods but to make its lines blend with the trees that surround it. Certainly in the case of smokestacks, gas holders, etc., it is important to blend them with the horizon as much as possible, as it is not always desirable in a town or city that they should be conspicuous.

At one time the American naval vessels were all painted white. The British Navy during the bombardment of Alexandria had its vessels painted black with yellow smokestacks. This gave a splendid mark to the enemy gunners.

About the year 1902 these ideas began to change. Service and low visibility became matters of importance. The British Navy authorities then ordered that the war-ships be painted a horizon gray and civilians thought the change offended the art sense, etc. It did, but art is not the main point in the dress of a war-ship.

At the great battle off the coast of Jutland it was reported that many of the German war-ships succeeded in getting away from the combined British fleets because of "low visibility." The German ships were painted a "dirty gray" so that they might blend with misty weather and with the horizon. Commercial ships are now also painted in this manner so as to escape submarines, and we have seen

Low Visibility Paints

Interesting Development in Modern Naval Warfare

some ships on which wavy lines of gray, green or other colors are used.

Dixon's Silica - Graphite Paint has at

least two colors that give "low visibility." These are Dixon's Natural Color and Olive Green.

Dixon's Paint successfully resists dampness, brine attack, etc. It is used in marine work for smokestacks, boiler fronts, hatch covers and combings, winches, and in fact all iron or wood work above or below deck where a dark-colored paint can be used and above the water line in many ways. But for "low visibility," to blend with the horizon, the Natural and Olive Green colors are suitable.

Dixon's Paint is also manufactured in Black and Dark Red colors, which are also suitable for many purposes in the engine room, etc.

Dixon's Silica-Graphite Paint is the most economical and longest-lasting paint. Figure this way: divide the many years of Dixon service into the first cost for labor and material. It will easily be perceived that Dixon's is the lowest-priced protective paint per year of its protective life on the structures. Do not be deceived by "glib" salesmen, who say, "Our paint costs the least in first cost." The manufacturer may use an inferior oil or inferior pigment in such a paint.

Remember, the Dixon Company uses pure boiled linseed oil, no matter how high the market is for this essential vehicle. Dixon's Silica-Graphite Paint is made in first quality only. It has a world-wide reputation of over fifty years. It is recommended for either metal or wood.

The Bitterness of Cheapness

NOTHING can be truer than that those who look for cheapness in things they buy, have bitterness as their portion later on.

If a man has an exposed metal surface that he needs to protect from rust and corrosion, he should aim to find that paint which has a reputation for service and quality. Such a paint must be made of a pigment or pigments that defy all of the destructive agents that may attack it. Furthermore, these pigments must be bound together and protected by the vehicle having the best reputation as a paint oil.

If a man desires a lubricant for the wearing and moving parts of any machine, he should not only seek a lubricant in the way of an oil or grease that is standard for quality, but should also see that that lubricant carries a certain percentage of flake graphite, as the minute flakes of graphite fill up all the microscopical irregularities of the bearing surfaces, forming a veneer-like coating of graphite of marvelous smoothness and endurance.

If a man buys even so small an article as a lead pencil, he should endeavor to get that brand which gives a lead that when sharpened has a quality that insures it against ordinary breakage and frequent resharpening.



Paul Fera with

DIXON'S
ELDORADO
"the master drawing pencil"

THE Pencil Department of the Joseph Dixon Crucible Company announce with pleasure that Paul Fera, known to many of his friends throughout the United States as "the human lead pencil," is now a member of their Sales Staff. For the present he will not be assigned to any particular territory, but will do special work, and his headquarters will be at the Main Office of the Joseph Dixon Crucible Company in Jersey City, N. J.

Delays in Transportation I

THE transportation of troops and their supplies, and the right of way given the government shipments, will tax our railroad facilities to capacity. Although government control of the railroads has taken place, there will possibly be many delays in transportation. All authorities agree that we are facing a period of inconveniences, delays and readjustments.

Having due regard to our own service, we wish to put these facts before our customers. We will do everything in our power to facilitate deliveries. In view of the facts enumerated above, won't you please coöperate with us by

1. Ordering as far ahead as possible.
2. Ordering in as large quantities as is fair for you to carry, particularly on staple numbers of our merchandise.
3. By exercising forbearance in criticising delays.

The Graphite Club

IT doesn't matter to the Editor whether the readers of GRAPHITE are personally interested in the Graphite Club of this company, but he is forced to tell the readers about the Graphite Club or lose his position.

The Graphite Club is made up of forty or fifty young men, all of whom are office employees of the Dixon Company. If they feel inclined they invite the officers of the company, and the superintendents, to attend the meeting. If they do not feel so inclined no invitations are sent out, and there is a strong suspicion that outsiders are not wanted on account of there not being sandwiches or smokes, or something, sufficient to go around.

Outside men of prominence are invited to speak before the Club. Seemingly they are glad of the opportunity, as the Club secured even prominent men from Canada.

It goes without saying that the gentlemen from Canada told them a whole lot of things that they were glad to know, and they had real information of much value to young and growing business men.

The Club is a new organization, and the president says that after they have had several birthdays they will be able to have things run more smoothly. Just now it of course is all embarrassingly new and there will, no doubt, be causes for criticism, but if the members think methods are wrong, they are invited to tell it, but must tell it kindly. In other words, the members are to have a heart and not jump on the officers of the Club with both feet—at least not yet. The last meeting, coming so close to holiday time, was a more or less frivolous one. In other words, a smoker with magic by a real magician. There is a real magician on the Dixon staff, but he was too modest to take the part, and perhaps it is lucky that he didn't.

"It is a Cat"

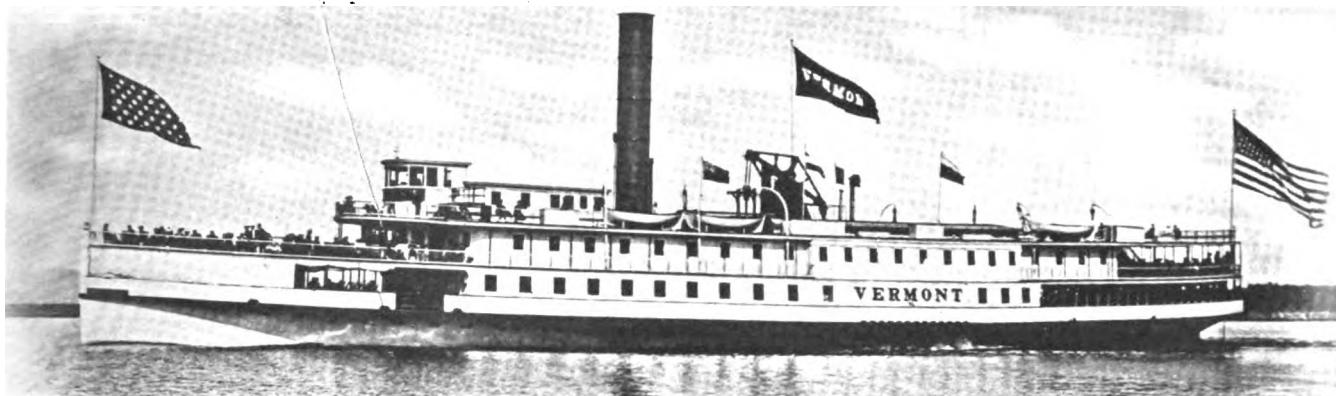
THIS drawing (reproduced from *The Survey*, September 6, 1913) represents the idea of a cat as gained from the following description:

"A small domestic animal, twelve or fifteen inches long and nine inches high—four legs ending in sharp claws—body covered with long hair—round head—ears near top of head—whiskers, long tail."



The difference between this crude drawing of a cat and a real cat is a measure of the difference between instruction without and instruction with visual aid.

So it is with Dixon's Graphite Products—lead pencils, lubricants, paint, crucibles, etc., etc. We may describe them to you but you will not get the proper measure of their quality and their worth to you until you see them and use them.



On the Lakes

TOURISTS and vacationists who have sailed over Lake George will recall the steamers "Mohican," "Horicon," and "Sagamore," and the steamers "Vermont," "Chateaugay," and "Ticonderoga" on Lake Champlain.

Chief engineers of these steamers long ago discovered the usefulness of Dixon's Silica-Graphite Paint. In fact, we may say that Dixon's Paint was born at Ticonderoga, New York, for it was at Ticonderoga that Dixon's Silica-Graphite Paint was first made and applied by us over fifty years ago.

We are proud to reproduce the following testimonial letter from Mr. D. A. Loomis, General Manager:

*The Champlain Transportation Company
The Lake George Steamboat Company*

"We have tried various kinds of smokestack paints, which burned off quicker than we would like. We have not found anything to equal Dixon's Silica-Graphite Paint for the purpose, and we have tried a good many paints. Both for smokestacks and fronts of boilers, Dixon's Silica-Graphite Paint has been used by us for many years and is our standard."—D. A. Loomis, General Manager.

Dixon's Silica-Graphite Paint in Marine Work

THE barge illustrated on this month's cover of GRAPHITE was constructed by Kelley, Spear & Company, of Bath, Maine, for the Northern Transportation Company.

It has a capacity of 3,000 tons of coal, is 240 feet long and 41 feet beam.

The exterior of the hull, above the water line, is painted with Dixon's Silica-Graphite Paint, Black.

Above the water-line on hulls, smokestacks, hatch combings, in the engine room, etc., Dixon's Silica-Graphite Paint has been satisfactorily used by well-known steamship concerns plying out of New York to southern ports.

It is also used on vessels on our Great Lakes. It is not an anti-fouling paint for use below the water-line in salt water, but for protecting all kinds of marine work above the water-line it is decidedly without an equal.

It gives longer service at lowest yearly cost.

Kelley, Spear & Company have built vessels which have carried the Stars and Stripes into many ports the world over. It is a pleasurable sign of the new times to see "Old Glory" being restored to the seas. "Nail the flag to the mast-head of our new deep-sea merchant marine, and keep it there," is a motto the Dixon Company is glad to subscribe to.

Protective Paint for Marine Work

THIS issue of GRAPHITE is the Gospel of Protective Paint to marine engineers, chief engineers, captains, naval architects and owners, and the sum of the argument is simply that

DIXON'S SILICA-GRAPHITE PAINT

is best and most economical for all kinds of protective marine work above the water-line.

Recommended for

Smokestacks	Hatch Combings
Boiler Fronts	Tanks
Winches	Exterior of Hulls
Hatch Covers	Anchors
Docks	Buildings

BOILER ROOM

Inner Surfaces of Steam Drums	Breechings
Mud Drums and Nipples	Flues
Connecting Doors	Sheets
Inside of Horizontal Boilers	Tubes
Headers	

The Dixon Company has made protective paint for over fifty years. It has been used the world over, and we have a reputation to live up to. We make no inferior or second grades; first grade absolutely guaranteed.

When painting, please be careful to follow directions on label.

[Of Interest to Light and Power Companies

THE superintendent of a Light and Power Company in the State of New York writes us as follows:

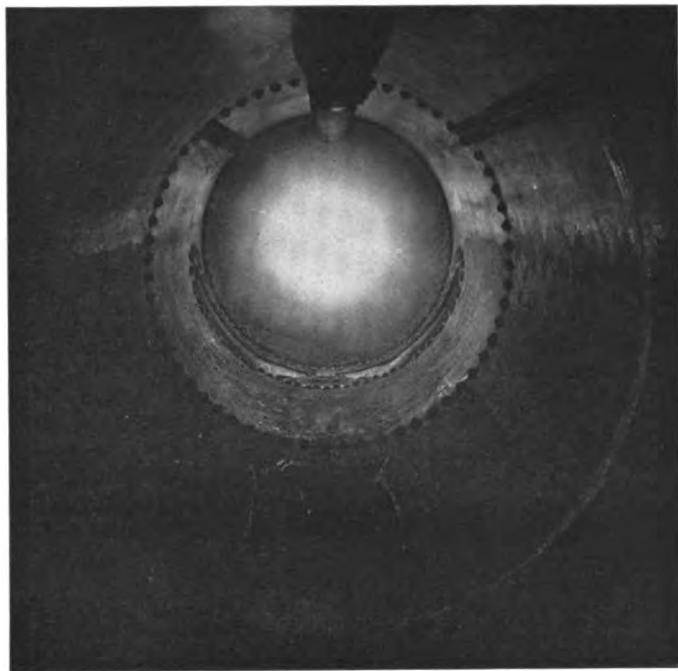
"In reply to your inquiry of December 11th, we wish to say that we are not in the market for Graphite Paint at this time on account of having painted our penstock some three years ago with Dixon's Silica-Graphite Paint.

"We do not think that it will be necessary to repaint it for some time.

"The trouble with Dixon's Silica-Graphite Paint is that it lasts too long for your own good."

We certainly appreciate letters of this kind, for very often superintendents who have had similar experience do not take the trouble to write us, although they undoubtedly appreciate the lasting qualities of Dixon's Silica-Graphite Paint.

Dixon's Silica-Graphite Paint is not always cheapest "per gallon," but it is lowest priced per year of service because it **LASTS LONGER.**



Silica-Graphite Paint for Steam Boiler Drums

THE photographic reproduction at the head of this article is neither a head-on view of a tunnel train nor Diogenes searching a gas or water main. A photograph of the interior of a steam boiler drum is something out of the ordinary. The editor of a technical trade journal devoted to the subject of boiler-making recently admitted that he had never seen such a photograph and doubted if one could be taken. The reproduction, though of more than usual interest on this account, is of greater interest to the engineer in the power plant where pitted boilers and scale form a common enemy against boiler efficiency. The reproduction shows the excellent condition of a drum painted with Dixon's Silica-Graphite Paint every ten months. The only other care or treatment given to this drum for a period equal to five months and nineteen days of continuous use was one and one-half pints of flake boiler graphite, fed every ten hours. The most remarkable fact in connection with the opening of this boiler was, as indicated in the reproduction, the thin coating or layer of dust. Scale was neither visibly nor physically in evidence and a few brush strokes sufficed to restore the drum to a most satisfactory condition. At the plant where this photograph was taken a careful record is kept of the performances of materials and supplies used to reduce operation costs.

In Sympathy

ONE of our largest iron works in this city has the following notice hung up in the office, which we feel sure will bring a sympathetic tear to the eye of many of our readers:

We have been in this business since 1892. We have been pleasing and displeasing the people ever since.

We have been cussed and discussed, boycotted, talked about, lied about, lied to, hung up and rubbed down.

The only reason we are staying in business now is to see what the hell is going to happen next.

—*Sunset*, Vancouver, B. C.

Dixon's Silica-Graphite Paint in Boiler Rooms of Power Plants, Ships, Etc.

THE DIXON COMPANY has a power plant in Jersey City of 1800 H.P., consisting of five Babcock & Wilcox boilers. For a number of years the Dixon Company has used Dixon's Silica-Graphite Paint for coating the inner surfaces of steam drums, both above and below the water-line. It also makes use of Dixon's Paint for coating the outside of mud drums and nipples to prevent corrosion, as well as for boiler fronts, and any and all metal surfaces in the boiler room.

We have the following testimonial letter from the Chief Engineer of the New York Life Insurance Building:

"About eleven years ago, when in charge of the Arbuckle Sugar Refining Plant, Brooklyn, N. Y., I overcame some very serious trouble with my boilers.

"The plant was equipped with Babcock & Wilcox boilers, developing 8400 H.P. The trouble was caused by pitting in the steam drums.

"After trying various supposed remedies, with but little success, I got some of Dixon's Silica-Graphite Paint, and, after scalding them, painted each of the drums inside, allowing them forty-eight hours to dry thoroughly.

"Up to the time I left Arbuckle's four years later, these boilers were treated this way every ten months. Not only did it stop the pitting, but where previously it had taken six men seven days to clean the drums of one boiler, two men now cleaned them in a day.

"I can certainly recommend Dixon's Silica-Graphite Paint to the engineer who has boilers that are giving him trouble of this nature."—(Sd.) P. HEELEY, *Chief Engineer, N. Y. Life Ins. Bldg.*

Paint for Cold Storage Plants

THE transportation of meat, fish and other perishable food products has been made possible by the development of cold storage facilities.

We print below the following testimonials:

"Referring to Dixon's Silica-Graphite Paint, will say that we are using it very extensively for various purposes, such as painting of condenser coils, brine piping (where it is not covered), boiler fronts, all steel doors and sprinkler piping throughout our Cold Storages.

"We have used Dixon's Silica-Graphite Paint for a number of years, and would recommend it very highly for any purposes where paint is required to preserve metal against the elements or protect metal against dampness or rust."—*Booth Fisheries Company, Mechanical Dept., C. W. Koehler, Engineer.*

"The writer has been familiar with Dixon's Graphite Products for the past twenty-five years, and always has had the greatest confidence in their reliability.

"Dixon's Silica-Graphite Paint was used on our two 80-foot steel smokestacks ever since they were put up, six years ago. They are exposed to salt water, as they are located on the docks, and the paint has stood up very satisfactorily."—*Geo. B. Williams, Chief Engineer, Central Wharf Cold Storage Co., Portland, Maine.*

PROF.: Your answer is about as clear as mud.

STUDE: Well—that covers the ground, doesn't it?

—*Sour Owl.*

How to Sell Grease

WHO said "GREASE"? Well, let's make it a good one—Dixon's. Now, grease is a slippery proposition. It's slippery in a number of ways. The man using poor grease in the lubrication of his car is getting a lot of gloom slipped over on him.

Since we don't want to take any chances on slipping up, we will discard the shoes in this display, but as we still have the back-yard fence background and the barrel, we will utilize them.

We place background and barrel in the same position as in building the Witt display. This time we will procure enough junk car parts from the garage to fill the barrel, with a few extra to throw on the floor. At the other end of background arrange a neat display of Dixon's lubricants. In the center we will tack our big noise on the fence. This time it reads:

"POOR LUBRICANTS filled this barrel.

Every bearing placed under a microscope shows the tiny 'Teeth' of Friction. INSIST that you get DIXON'S—Dixon's lubricants prevent friction."

Two smaller cards read:

"May We Help You
DIXONIZE Your Car?"

"There Is No 'In Between'
—SPECIFY DIXON'S"

—*Hardware Age*, Nov. 8, 1917.

Management

A WELL-KNOWN engineer who is an expert in industrial practice has recently gone on record with the opinion that the industries of the United States on an average are not realizing over 20% of their possible capacity. . . . He says that we have scarcely begun to appreciate the gains that are possible under more effective organization.

If the country is not getting more than 20% effective results out of possible capacities, who or what is responsible for the loss of the 80%? On this point A. J. Hemphill, chairman of the board of the Guaranty Trust Company, one of the largest trust companies in the world, throws a high-power spot-light when he says in the *World's Work*:

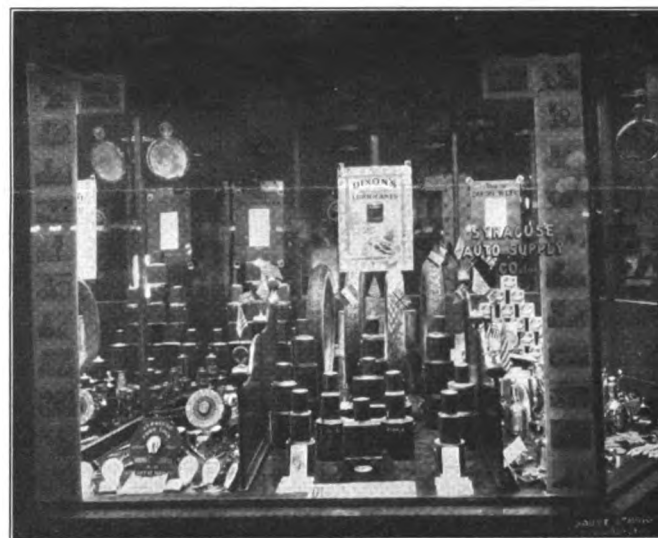
In considering employment of funds in any concern, the greatest emphasis should be placed on the ability of the management. I would say that the most important consideration in any investment is management, management, management, and again management. It is not enough to know that it is honest; its ability in that particular business should be established. Ninety-five per cent. of the worth of an undertaking, I should say, is in the management.

—*Engineering and Mining Journal*.

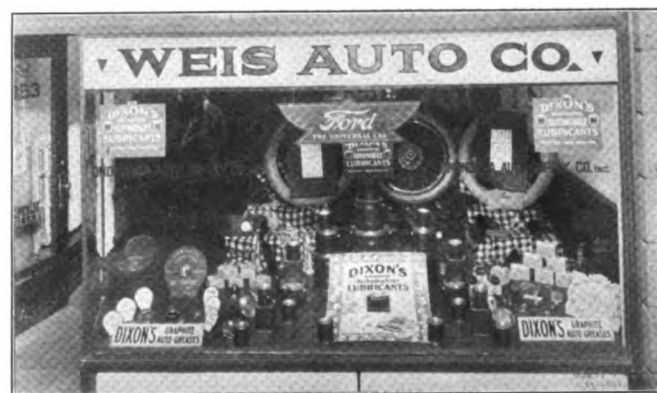
Syracuse, N. Y., Window Displays That Pulled



Yates Tire Company



Syracuse Auto Supply Co.



Weis Auto Co.



A. G. Wittich

A GLANCE at the above photograph shows at once a man of great force, energy and the qualities that enable him to get the best out of anything and everything that may be in his care or under his supervision.

Mr. A. G. Wittich has been for several years foreman of the Brass Foundry Department of the Ruud Manufacturing Company of Pittsburgh, Pa. His letter to us of November 3d advises us that on the No. 60 size Dixon Crucibles he is now securing 24 heats on bronze, and more, as a rule, than 44 heats on yellow metal. Mr. Wittich writes that his crucibles get so thin that he has very few that he can cut down for use as funnels, and that he is always short of funnels on account of Dixon's Crucibles running so well. This was not the case, however, when he used other makes, for then he had no trouble in having plenty of funnels.

The above report shows just what good team work will do. But even when a man's heart is in his work and he has the "get there" determination to secure the best out of the crucibles that Mr. Wittich has, and these crucibles happen to be Dixon's, still, even with all this in mind, 24 heats on bronze and 44 and over on yellow brass, using a No. 60 crucible, is a record to be proud of, and Mr. Wittich has our sincere appreciation in the good work he is doing.

Panic and Prosperity

The Small Difference that Lies Between

IT is said that the difference between life and death is but a very few degrees of temperature of the human body, and according to the following, which is taken from *Printing* of December 1st, there is a very small difference between panic and prosperity:

"Justice Brandeis of the Supreme Court some years ago made an exhaustive study of the cause of panics in this country. He took fifteen or twenty of the most staple lines of trade as the object of his special study. Granting that all these lines were enjoying normal conditions, he found that a ten per cent. increase in the total volume of business

brought us to the very crest of the highest wave of prosperity and that only a ten per cent. decrease in the volume of business resulted in the most serious depression, with panics and unemployment in all our great cities. It was a revelation to most business men to know that only a ten per cent. increase in the total volume of our business brought boom times to this country and that only a ten per cent. decrease brought hard times."

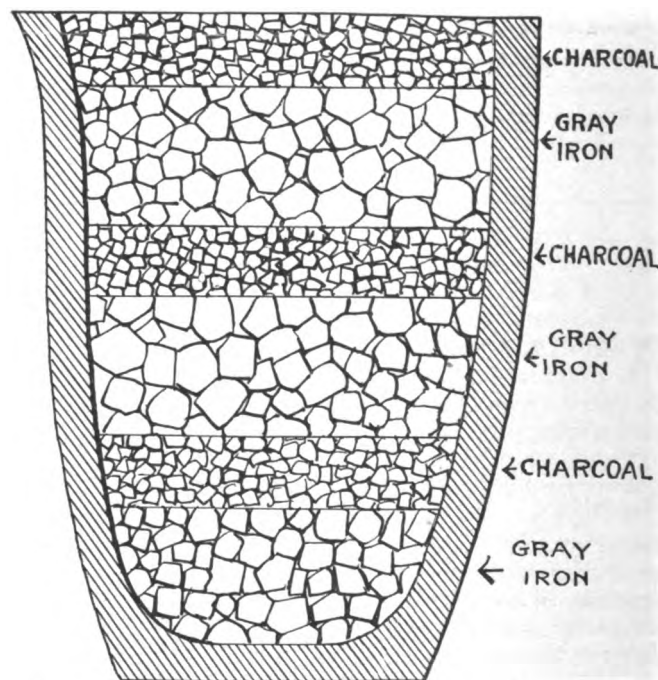
How Your Brass Foundry Can Give You Iron Castings the Same Day You Want Them

HOW often it happens that you must have an iron casting in a hurry, and such a hurry, too, that you cannot wait to take the pattern to the man who makes your iron castings and wait till the use for the casting is almost over.

Every one who operates a brass foundry but who has no iron foundry, can make iron castings quickly and cheaply in his crucible furnace, for he has all the equipment necessary for making these hurry-up, important little iron casting jobs. You could have your casting almost before your pattern reached the iron foundry.

Gray iron of the better kind melts at 2327 degrees Fahrenheit, and while this may look to your brass founder to be a high heat compared with the yellow brass or composition metal he regularly melts, the casting of gray iron in his graphite crucible is not given a second thought. The melting of gray iron in a graphite crucible is so simple that it is surprising that the practice is not more general.

Alternate layers of charcoal and gray iron, broken to pieces about the size of walnuts or larger (if it is not con-



venient to have pieces so small), are put in a Dixon Graphite Crucible, and the melting is done in your pit brass furnace, and an iron casting of high grade will be secured in a very little longer time than it takes to make a brass casting.

Use the bottom of an old brass crucible as a cover—this keeps the sulphur fumes and coal out of the crucible and also helps to make the melt more quickly.

Use a little Dixon's No. 2441 Silica Lead on your sand

as a facing, and ten to one you will have as good, if not a better casting than ever came into your shop. It is surprising how easily this can be done.

Colgate & Company Sued under the Sherman Law

THE Attorney-General has brought suit against Colgate & Company under the Sherman Law on the ground that they have asked their customers to observe a uniform retail or selling price on their products. Colgate & Company have carried on their present policy openly for forty years, and were therefore surprised at the action of the Attorney-General.

The Attorney-General offered to withhold the prosecution if Colgate & Company would give up their price protection policy, but, believing that they are in no manner breaking the law, Colgate & Company have decided to contest the suit.

The facts are these: Colgate & Company ask all their customers to sell their goods at a uniform price, which assures to them a fair and reasonable profit. If the customers prefer not to do so, Colgate & Company prefer not to make sales to them.

Colgate & Company claim no monopoly or exclusive patents. Soaps, powders, perfumes and toilet preparations are made and sold by more than one thousand manufacturers in this country alone. Competition is keen and active. Colgate & Company compel no one to buy their products. Every dealer is at liberty to purchase wherever and from whomever he pleases. Colgate & Company demand no written agreement and threaten no injury to a customer's business if he sells below their prices. They simply refuse to accept the customer's orders if he sells at cost or below cost to advertise his business. Colgate & Company claim that if a customer sells below their prices he injures their good will and makes their articles undesirable for other dealers to handle, as the dealers wish to be assured of a profit and not a loss.

Colgate & Company have been in business for 112 years. They have at present over forty thousand direct customers in the United States as well as a large export business in nearly every part of the globe, and believe that in standardizing prices for their customers they are carrying out their wishes, as they have repeatedly, by letter and through sales-

men, been assured that this policy has given the greatest satisfaction to the greatest number.

Colgate & Company, having decided to contest the suit, will be greatly pleased to receive a letter from other manufacturers or other dealers, giving views or any experiences along the line of price cutting.

"Skinner's Big Idea"

A MOST interesting story is told under the above heading in *The Saturday Evening Post* of December 15th, 1917. It is a story that every business man and every executive should read and profit by. In this story occurs the following letter, which is said to be not fiction, but an authentic letter:

"I believe that in skilled work a factory that consistently employs so-called 'old men' would produce more goods per year than would a similar factory making exactly similar goods with a like number of young men. This would be due to two things: Less spoiled work on the part of the more experienced 'old men,' and better attendance at the factory—even allowing for the prevailing idea that 'old men' have more sickness than do young men. This assumed weakness of the average 'old man' is, in my opinion, more than counterbalanced by the loss of time on the part of the 'young man' due to his having more interests outside of his business that appeal to him strongly enough to cause him to stay away from work.

"In callings where experience or ability to reason from one's experience or the recorded experience of others is the foundation of a man's value, it follows that the man of forty to seventy is, in the main, better than the young man.

"My idea is to get a good man, no matter what his age, provided he is normal in health. If we could, as a nation, get our people to pay more attention to their health, Doctor Osler would have to add another forty years to his original forty."

This letter of course has a very important bearing on the story which, as we have already said, should be read by every business man and executive.

Season's Greetings

The Dixon Company desires to acknowledge the very many greeting cards that have been received from its friends and customers. So many have been received that we have not attempted to answer them personally.

Throughout all the greetings there has been a strain of sadness and sorrow, but nevertheless a spirit of hopefulness for the future, and a strong tendency to look on the bright side rather than the dark side.

From Mr. H. N. McKinney of the well-known advertising firm of N. W. Ayer & Son, we received the following, which seems peculiarly appropriate to the season:

*"Not Christmas Songs — But War Drums Beat,
Not Dancing Step — But Marching Feet,
Not Fireside's Glow — But Trenches' Gloom,
Not Crowded Hall — But Empty Room.
A Nation Stirred — But Saddened, Too:
Our Boys Are Gone — But They'll Be True.
Our Hearts Are Sad — But This We Pray:
God Bless Us All! — On Christmas Day."*

From the International Silver Company we received the following:

"From Our Christmas Circles many of us have missed faces that are dear to us. We thought of 'the boys' and we knew that, wherever they were — on the high seas or somewhere in France — they thought of us. God Grant The New Year brings us measurably nearer to that which we long to see. But, whatever it may bring — victories or temporary defeats — we know 'the boys' over there are going to do their best. It's up to us to do our best over here."

Melting Cast Iron in Crucibles

FOR the production and melting of aluminum alloys gas-heated furnaces are being employed that hold crucibles of 600 pounds capacity when melting copper and approximately 200 pounds capacity for aluminum. One of the more recent applications of artificial gas is in the melting of iron. In many instances cast iron is being melted in crucibles of 60 to 120 pounds capacity for the production of high-grade castings; and although the fuel costs are considerably higher than when using coke, the superior quality of the castings obtained more than justifies the extra fuel cost. In melting iron, about 700 cubic feet of artificial gas of a calorific value of 600 B.t.u.'s was required for each hundredweight of metal melted. The English hundredweight of 112 pounds is here indicated. From each crucible from seven to nine heats of iron were obtained.—*The Foundry*.

Power from the Earth

WHEN the cost of transportation and other factors sent the price of coal skyward, you may have begun to suspect that coal burning was not all that it might be. An Italian scientist suggests that we get our light, heat and power from our own back yards. He has sunk a shaft five hundred feet and tapped the earth's heat to run the boilers that drive his turbogenerators. He has a plant which develops 15,000 H.P. per second.

But don't start digging for a moment, please. This plant is located in Mount Vesuvius. Under average conditions, it will be necessary for you to descend some 8,000 feet before you can get heat enough to make steam. But, this difficulty surmounted, the scientist assures us that we could get enough return from our terrestrial heat plants to make them pay for themselves in two years.—*Milestones*.

THE President of the Ransome Concrete Machinery Company has put himself on record and says: "I believe that the American Manufacturers' Export Association is the most important factor for the development of the export trade in the United States, and I am very desirous that all manufacturers in the United States who are doing export business should join this splendid organization and contribute to the support of its great aims and purposes."

I LEARNT that nothing can constitute good breeding that has not good nature for its foundation.—*Bulwer*.

Exploding Paint

THE moral this time precedes the story. Use Dixon's Silica-Graphite Paint; it contains no explosive material in pigment or vehicle.

We quote the following from the New York *Evening World* of January 2, 1918:

"Harrisburg, Pa., Jan. 2.—Fire early to-day destroyed part of the Harrisburg Pipe and Pipe-Bending Company's ammunition plant, causing a loss of \$250,000. The company was working on a big Government contract for navy shells. Workmen declare the

DIXON'S Silica-Graphite Paint

A PAINT THAT OUT-
LIVES THE PRICE

*Remember, Rust Costs More
Than Paint Upkeep*

In almost every part of a ship above the water-line where a protective paint is desired, Dixon's Silica-Graphite Paint will be found most serviceable and most economical.

Consult our Paint Department about paint upkeep.

fire started in the paint shop after a can of paint exploded. Departments engaged in shell-making were not damaged."

Long Service Paint Record

A CORRESPONDENT writes us that he has been using Dixon's Silica-Graphite Paint for over 10 years on his tin roofs, and has found it the best paint he has ever used. To use his own words, "It has metallic paints beaten a mile."

In cold weather he finds that, like all other paints, silica-graphite needs "considerable elbow-grease" in order to brush the paint out thoroughly. He says it is far more serviceable than the best metallic or oxide paints that he has been able to find, and that while the price seems a trifle high you must consider the quality and service given.

From Atlanta

AMONG the questions asked by the receiving officers of all selectmen is a query as to knowledge of various professions. When Walt Woods, a negro selectman, came in Friday afternoon, however, it appeared for a time that he had no knowledge of anything. The questioning officer went through the entire list of professions and it was evident that Walt was neither a cook, baker, horseman, electrician, mechanic nor anything else useful.

At last the officer reached the last class in the list, the barbers. "Can you use a razor, Walt?" he asked in despairing tones. "Yaas, sir," grinned the negro, "an' if you don't believe it ask dat nigger over here wid de scar on his face if it ain't so."

JOHN HENRY JONES, a promising negro selectman from White county, who recently took up the burden of a soldier at Camp Gordon, is a pacifist to the core, and it was evidently his desire to impress this fact at the very start upon officials at the receiving station. John Henry was ushered from the train bringing him to the camp into the presence of an officer, who, among other things, wished to know if he had ever served with the army or navy.

"Naw, sir," stated the negro. "I sho' ain't. I'm what you call a peaceable nigger. When I was fust 'concreted' I done my best to git a 'redemption,' but dere wa'n't no use. I got to fight whether I want to or not."

—*Atlanta Constitution*.

Paint as an Investment

MR. GEORGE B. HECKEL of Philadelphia, Editor of *Drugs, Oils and Paints*, and Secretary-Treasurer of the Paint Manufacturers' Association of the United States, is known world-wide as a paint authority, not only from the critic's and manufacturer's standpoint (the scientific side), but also from the consumer's (the practical) side.

In the January issue of GRAPHITE we quoted the Government expert, Mr. Showalter, on "Rust." We now quote Mr. Heckel on "Paint as an Investment, as follows:

"We wish to drive home to the mind of the public—to the mind of every consumer, actual or potential, the fundamental fact that when he buys paint he is not spending money, but making an investment; to fix in his mind as an axiom the conviction that paint is a prime necessity of economic life."



"ANSWERING your recent inquiry as to marketing of the Dixon Graphite Automobile Lubricants, we will state that we are to-day handling more Dixon Graphite Automobile Lubricants than all other lubricants combined.

"We attribute our success with your lubricants to the following facts:

"Good goods.

"Liberal advertising.

"Your policy of coöperating with the dealers.

"For some time past we have not known what our stock consists of. Your representative makes out his own orders.

"We have entire confidence in the Dixon Company and its products and appreciate the assistance we receive, and are willing to coöperate with you at all times."—*Lowe Motor Supplies Co., F. Lowe, Pres.*

"PLEASE ship me by express to Plainfield, Vt., a 25 lb. pail of Dixon's Traction Belt Dressing. I want to tell you this is the best dressing that I have ever used."—*H. L. Clark.*

"I RECEIVED your sample of Dixon's Brake Cylinder Grease, also the graphite. I gave them a test and find them to be just what you recommend them to be. Fine for Air Brake work."

"I RECEIVED your samples of Graphite and Graphite Grease.

"I was having trouble with brake going into emergency. I applied your graphite to the slide valve and walls of the cylinder and had no more trouble with valve going into emergency on account of triple valves. I also find that the graphite grease does not bake or get gummed up like other grease and makes valves work very easy, and valves do not need to be ground so often. The grease also keeps the leather in the brake cylinders soft and preserves the leathers. I recommended it to the officer in charge and he said he would order some right away."

"BE at war with your vices, at peace with your neighbors, and let every new year find you a better man."—*Franklin.*

GOLDEN BOUQUETS

OR WHY

DIXON'S ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"I ACKNOWLEDGE the receipt of the Dixon's ELDORADO sample drawing pencils, for which I very kindly thank you. Having used the pencil, I have been convinced of their superior quality. Therefore, I shall be a constant user of them. Dixon's BEST WHITE is the ideal thing for correcting blue prints."

"I RECEIVED samples of your drawing pencils sent me some time ago and find the same all O.K. in every respect."

"YOUR inquiry of the 4th at hand and in reply will say that the samples of the 'Master Drawing Pencil' are proving very satisfactory."

"I RECEIVED the samples of Dixon's ELDORADO and Dixon's BEST WHITE and found them to be just what I wanted and I am very much pleased with them."

"ALL degrees of ELDORADO, 'the master drawing pencil,' are top-notchers. Dixon's BEST WHITE No. 352 is a fine pencil for Kodak books, blue prints, etc."

"WE received your samples of drawing pencils and would say that they are very satisfactory. We ordered a supply of Dixon's ELDORADO pencils from our stationer. They have proved very satisfactory."

"SOME time ago I received samples of Dixon's ELDORADO, the master drawing pencil, and Dixon's BEST WHITE pencil, all of which have been tried out in our office and have proven their excellence in every test a pencil could be subjected to; and can cheerfully recommend the Dixon ELDORADO pencils to every user who appreciates a smooth drawing pencil."

"ABOUT a month ago I received samples of ELDORADO, 'the master drawing pencil,' in 2H, 4H, 6H degrees; also No. 352. Since that time I have been giving your pencils a careful and thorough trial in my office and find them to be satisfactory in every particular. I am especially pleased with the smoothness and evenness of the lead."

"ON August 14th you mailed us samples of your ELDORADO pencils, and in this connection I will say that after giving them a fair test we find them an exceptionally fine pencil. On the strength of this test, we have placed an order with your distributors."

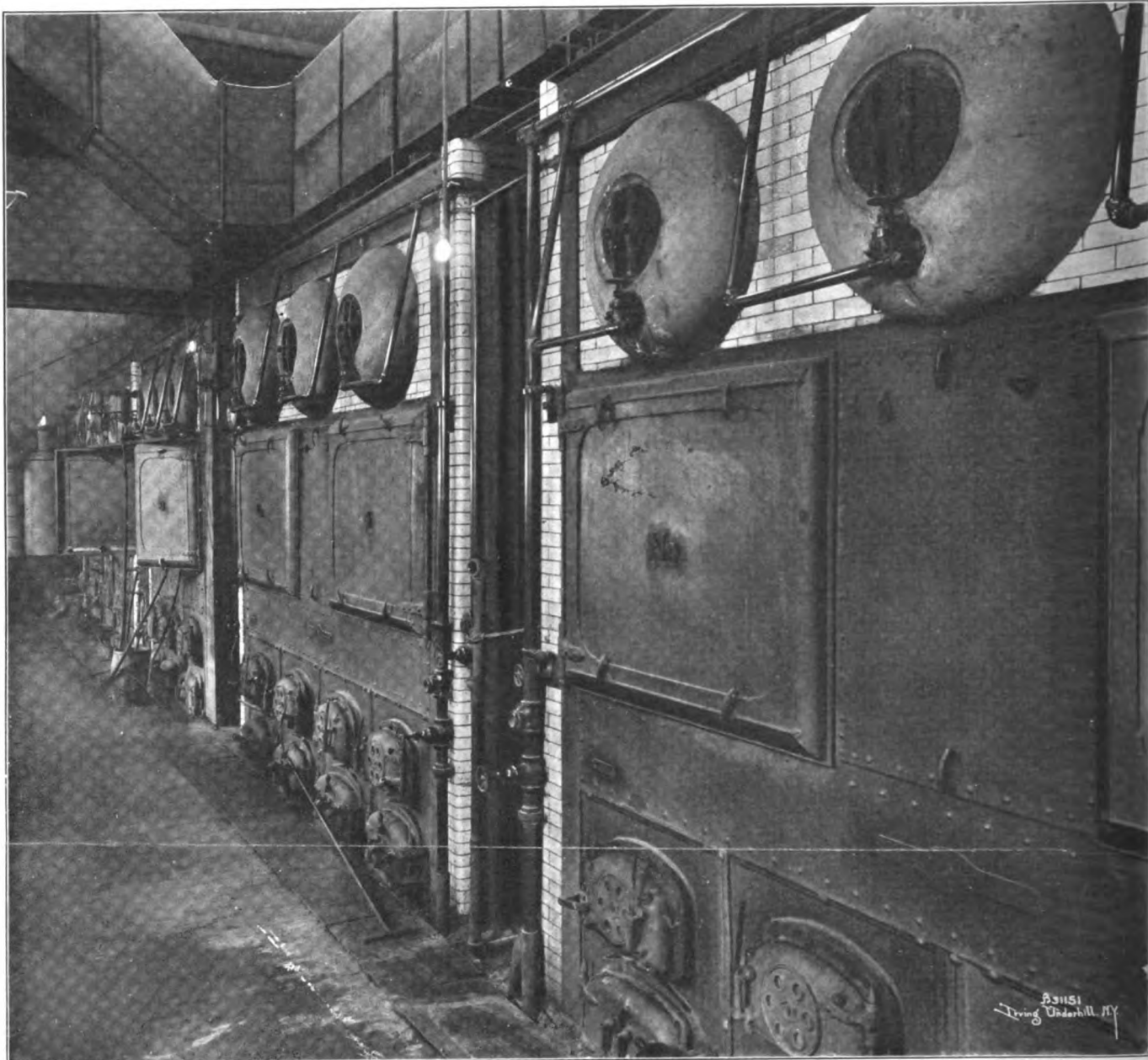
"SAMPLES of your drawing pencils are very satisfactory for mapping, the best I have ever used. They contain the best lead of any pencil I have used and retain a fine point without breaking as most pencils do. I shall use no other when I can get these. I am writing this with an ELDORADO pencil. HB, not sharpened fine. It is perfect in every way."

"SOME time ago I received upon request samples of your ELDORADO pencils including 1H to 6H, and also one of your White for blue print use. Have waited till I had an opportunity to give them a thorough trial before passing judgment upon them. Have lately had occasion to use each of them in my office in tracings of profiles, and can truthfully say that they have proven equal at least to the —, which I had formerly used almost exclusively."

"THEY are very uniform in temper, and show no hard or soft spots to interfere with perfect results. I cheerfully recommend them to the Fraternity of Engineers where uniformity of line is an essential."

"EVERY man should keep a fair-sized cemetery in which to bury the faults of his friends."—*Henry Ward Beecher.*

"I WISH to thank you very much for sending us the copies of the Dixon booklet, 'Useful Spanish Words and Phrases.' I gave them out to one of my classes, who appreciate them very much. As soon as that class has finished with them, I shall use them in another class. They are gotten up in a pleasing form and will be helpful to us."—*From a Teacher of Spanish.*



BOILER FRONTS

Must be protected from rust and corrosion and should be of good appearance.

DIXON'S SILICA-GRAPHITE PAINT

is appreciated and recommended by every engineer who has ever used it. It gives best and longest protection and finest appearance.

The above shows the Dixon battery of Babcock & Wilcox boilers. We know from our own experience. See inside pages of this issue for what others say.

Write for Booklet No. 190-B and long service records

Made in Jersey City, N. J., by the

JOSEPH DIXON CRUCIBLE COMPANY



ESTABLISHED 1827



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MAR 29 1918

Graphite

VOL. XX

MARCH, 1918

No. 3



Butte & Superior Copper Co.,
Butte, Montana.

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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BUFFALO OFFICE	409 Erie County Savings Bank Bldg.
ATLANTA OFFICE	225 Peachtree Street

EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

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FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.



A Pencil First Tunneled the Hudson

The penciled plan is the first step in every big engineering feat. Success or failure depends on the accuracy of the plan.

Many of the world's foremost engineers, architects and draftsmen use

**DIXON'S
ELDORADO**
"the master drawing pencil"

exclusively. They know it is always true to grade—the lines are always fine and clear. The lead is strong and does not wear away easily.

Make "the master drawing pencil" your close friend for all pencil work. You cannot find more perfect leads or a pencil that will give such uniformly superior service.

Write us on your letter head for full-length samples of your favorite degrees.

JOSEPH DIXON CRUCIBLE COMPANY
Dept. 190-J, Jersey City, N. J.

DIXON'S BEST WHITE N°352
writes white on blueprints





OF all coal users, power plants should leave no stone unturned in an endeavor to reduce their coal consumption after the experience all have been through during the past three months. Any method of operation that saves coal should be thoroughly investigated.

The Committee of the Chamber of Commerce of the United States coöperating with the Council of National Defence in a special war bulletin gives the following five suggestions for the reduction of coal consumption:

1. Inquire into the methods employed by your foreman and consider his methods in relation to those suggested by the Bureau of Mines.
2. Learn what plants in your locality secure the best results from coal.
3. Endeavor to have wasteful users of coal profit by the best experience of the locality.
4. Improve all local methods by consultation with the Bureau of Mines and study the stoking methods recommended by the Bureau.
5. Buy your coal as near home as possible.

Heretofore, the Committee declares, the man who used more coal than necessary might feel that he caused no loss except to his own bank account. Few were influenced by the thought of conserving the world's supply of coal. To-day, however, coal is a sinew of war, and he who unnecessarily reduces the country's available stock may curtail the nation's energy in the great industrial conflict.

Because men are not now available to open new mines and because of the fact that transportation facilities are loaded to their capacity, there is a definite limit to the amount of coal available for use during the war.

To-day there is a larger demand for coal than ever before. This demand, coming from railroads, our Allies, and necessary industrial concerns, should be met so that the war may be prosecuted to the fullest extent of our ability.

The responsibility of coal consumption rests entirely with the coal user. A waster of coal is an enemy of mankind.

There is a direct relation between power plant economy, Dixon's Graphite Products, such as Dixon's Pioneer Boiler Graphite, Dixon's Ticonderoga Flake Graphite and Dixon's Graphite Cup Greases, and the reduction of coal consumption.

It is known by all engineers that boiler scale reduces the conductivity of boiler heating surfaces and increases the

Power Plant Economy

And Its Relation to Reduction of Coal Consumption

amount of coal necessary to maintain a certain number of pounds of steam pressure. One authority says one-sixteenth inch

of hard scale reduces the efficiency of a boiler fully 10%, and one-eighth inch scale reduces it fully 20%. This means that 10 or 20% more coal must be consumed to maintain the desired steam pressure.

This extra amount of coal consumed may be easily saved by keeping boiler tubes free from scale. This may be effectually accomplished by the use of Dixon's Pioneer Boiler Graphite.

The action of graphite is not chemical, nor does it attack metal, as is often the case with strong compounds; neither is it affected by any acid in the water or by heat generated in the boiler. Particles of graphite simply work through the minute fissures existing in the old scale and gradually penetrate between the scale and the metal.

The use of Dixon's Pioneer Boiler Graphite lessens the time required for cleaning, increases the steaming capacity, *reduces fuel consumption*, minimizes repairs, improves operation of feed pumps, increases life of valves and gaskets and prolongs the life of boilers.

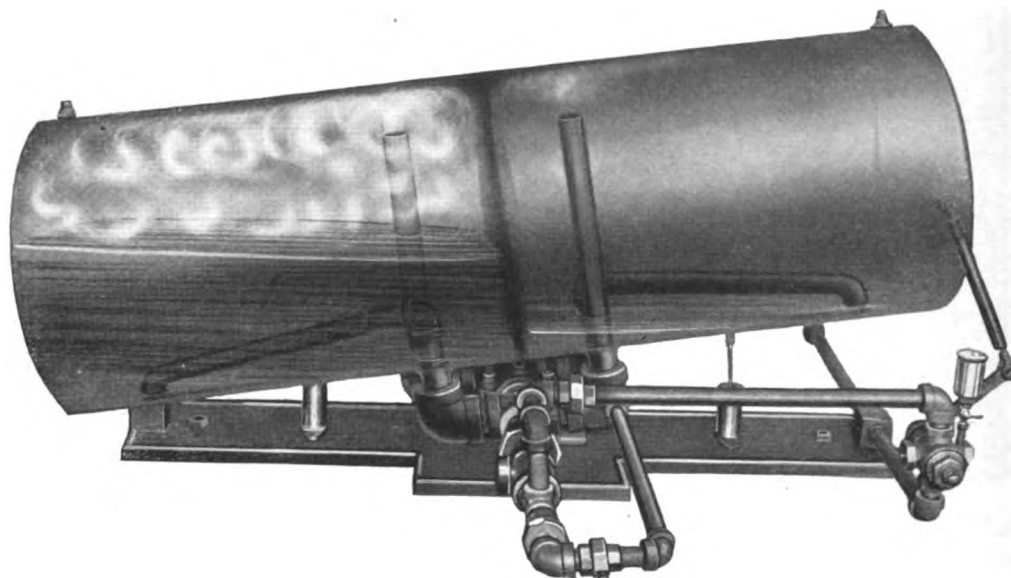
We suggest that those interested in reducing coal consumption write to this Company, Dept. 190-T, for "Graphite for the Boiler," and more definite information regarding methods of using Dixon's Pioneer Boiler Graphite.

Not only will this member of the Dixon family materially reduce your coal consumption, but two others, Dixon's Ticonderoga Flake Graphite and Dixon's Graphite Cup Greases, will also be of assistance.

Dixon's Ticonderoga Flake Graphite used for cylinder lubrication reduces friction to a minimum and by so doing decreases the amount of power necessary to operate your engines. This in turn reduces your coal consumption. We have a booklet, No. 190-C, that tells you more about how and why this lubricant saves and also shows methods of successfully feeding dry graphite into cylinders.

Dixon's Graphite Cup Greases will also reduce your coal consumption by reducing friction to a minimum and thus reduce the amount of power necessary to operate. It is for use in grease cups on bearings and other moving parts.

We know by actual experience in our own power plant that the use of these three Dixon Products will materially assist in reducing the amount of coal consumed and will help save the national coal supply.



Phantom View, Automatic Duplex Boiler Feeder

Dixon's Flake Graphite Used in Boiler Feeder

ANOTHER illustration of the fact that the engineering profession has adopted Dixon's Flake Graphite for obtaining perfect lubrication of rubbing surfaces when subjected to moisture and heat, and where oil cannot be used, is furnished by the Automatic Duplex Boiler Feeder and Tilting Traps manufactured by the Farnsworth Company of Conshohocken, Pa.

By means of a specially designed lubricator, Dixon's Flake Graphite No. 2 is introduced to the steam admission line of these machines, and the valve and packing glands thus acquire a graphited rubbing surface that will not burn nor wash off. In this way cutting of the metal is eliminated and the life of the parts increased several hundred per cent.

The Farnsworth product has been designed according to progressive ideas in other respects than by the adoption of graphite for lubrication. By means of a steel shaft and bearing supporting the tank and water contents, all weight is removed from the glands, which are of the full floating type. Through the use of semi-metallic packing which requires renewal but once a year under the highest steam

pressures, packing troubles have been done away with. Weighted levers and trunnions as well as small parts have been entirely eliminated in these machines.

The Duplex Boiler Feeder gives what is practically two return traps in one because the two chambers of the tank alternately fill and discharge. Aside from the increase in capacity for a given pipe size, the continuous discharge to the boiler and the fact that one chamber is always in the filling position places this machine far in advance of the single acting return trap.

As a master trap to which the condensation from other type machines is discharged and into which make-up boiler feed water may be admitted as needed, the Duplex Feeder offers a very satisfactory and economical boiler feeding device for the large or small plant.

The Farnsworth Company also manufactures a complete line of Return, Separating or Non-Return, Vacuum, Lifting, Condenser and Variable Pressure Traps to fill the varying requirements of the up-to-date plant for the most economical handling of the condensation problem.

Brushes for Your Motor

New Electrical Booklet



found in a minute. graphite brushes.

AMONG the new booklets published is one, "Dixon's Graphite Brushes," that is well worth keeping for reference.

This booklet tells the story of how graphite brushes came into being and further describes the advantages of graphite brushes over carbon. The various conditions of service are also described and recommendations made as to where graphite brushes may be used to the best advantage.

The two center pages are devoted to an arrangement of prices and sizes so that the cost of any size brush may be found. There are also rules as to how to order

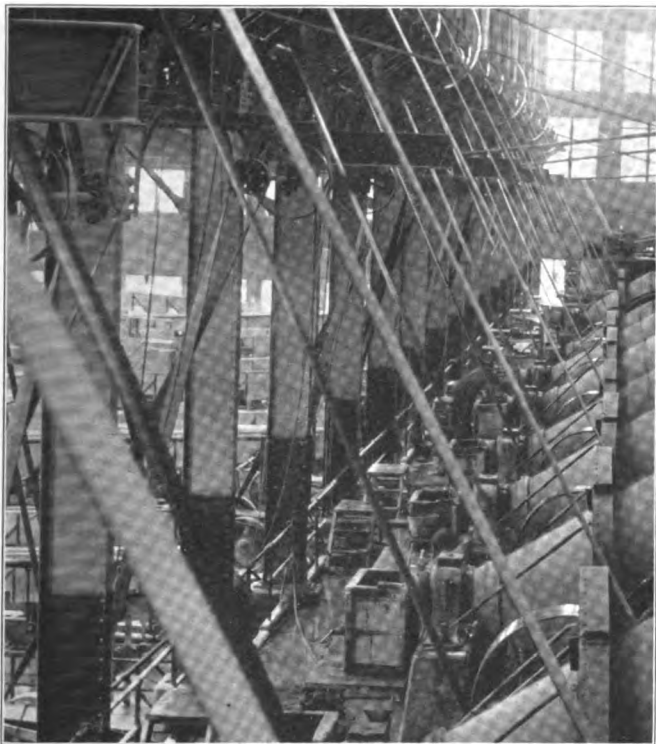
Other graphite electrical specialties such as resistance rods and lubricating rods are shown and described.

Graphite, unlike carbon, brushes will not cut or scratch the commutator. They prevent sparking and wear of the commutator and have a very long life if properly adjusted.

We shall be very glad to send a copy of this booklet to any one interested, as well as give our advice as to whether or not DIXON'S GRAPHITE BRUSHES are adapted for any particular machine. In writing please be sure to tell us the number of brushes used on the machine, the dimensions of the brushes, the number of amperes at heaviest load, and the class of service in which the machine is operated. Please address Department 190-M.

◆ ◆ ◆

"WE should be thankful for all, for man cannot tell an evil from a blessing. What appears to be an evil is often a blessing in disguise."



Dixon's Graphite Products in the Mining Field

OUR cover shows the plant of the Butte & Superior Copper Co., Butte, Mont., and the illustration heading this article shows the inside of the mill of the Miami Copper Co. We are indebted to the *Mining and Scientific Press* for both of these illustrations.

The above picture shows a number of belts, all of which must be kept in the best of condition. What better way of doing this than by applying Dixon's Solid Belt Dressing or Traction Belt Dressing?

When a quick, convenient and positive cure for slipping is desired there is nothing better than Solid Belt Dressing. Traction Belt Dressing is for use when there is time and opportunity for applying a paste dressing. It penetrates the fiber of the leather, strengthening it and bringing back vitality. If there is anything that will waterproof a belt, preserving it against the spatter of water, wet steam and destructive chemical action, it is Dixon's Traction Belt Dressing.

Dixon's Solid Belt Dressing should be used as a convenient dressing for leather, rubber and fabric belts.

Dixon's Waterproof Graphite Grease may be used for the lubrication of cables, the use of which is quite extensive in the mining fields.

During the operation of remaking the cables they may also be lubricated. Probably most companies have what is known as a rope house where this operation is performed. After all of the strands are taken out and thoroughly cleaned and wound on separate drums, they are then re-woven, and as the refinished rope comes forth foot by foot, it is passed through an iron trough or "mulligan," as it is termed.

This "mulligan" has a false bottom to which is conducted live steam. The grease is placed therein and heated to a degree sufficient to melt it. Then the rope is passed through this solution. By following this operation, a thorough coating of lubricant is applied to all of the strands.

Another important use for Waterproof Grease is on dredgers. The endless chain bucket type with upper and lower tumbler bearings requires a special method of lubrication to which Dixon's Waterproof Graphite Grease is peculiarly adapted.

The uses for Dixon's Silica-Graphite Paint in this field are numerous. Chief of these is for smokestacks and other metal work subject to corrosion by acids, alkalies, gases, and the weather. Numbers of mining companies have used Dixon's Silica-Graphite Paint for these purposes and have had excellent satisfaction.

We will gladly tell you more about all of these products and their particular application to the mining field if you so request this Company.



"That Joint Used to Leak"

"THAT joint used to leak," said the engineer of the big power plant to the general manager, and added, "but I have never had any trouble with it since I used Dixon's Graphite Pipe Joint Compound."

"I haven't," continued the chief, "a leaky joint in our plant now and I never expect to have any more, because I intend to keep a supply of Dixon's Graphite Pipe Joint Compound on hand all the time. I used it on both flange and screw joints and on all bolts. I put it on the shank of the bolts as well as on the thread. By having it on the shank of the bolts they are more easily driven through the holes, and by having it on the screw end the nuts can be pulled up easier and better."

"You like it better than anything else you have ever tried, I suppose," said the general manager by way of comment.

"You bet I do," said the chief. "I like it because the graphite in the compound enables you to pull up and make a tighter joint, and the compound never hardens, and therefore the opening of the joint is an easy matter at any time. I am told that joints on which Dixon's has been used have been opened twenty years afterward without any difficulty. A friend of mine told me that a fifteen-inch gas main in Reade Street, New York, was opened without the slightest difficulty, although it had been buried for a number of years, and they expected to have a whole lot of trouble in opening it. That surprised some of the gas people so much that they investigated and decided that it should be the standard dope for joints, so why shouldn't I make use of it?"

"I quite agree with you," said the general manager as he turned toward his own office.

If you would like to know more about Dixon's Graphite Pipe Joint Compound please write for Booklet 190-D.

"Of what we are others are not capable of judging. They judge our seeming only."

Advertising for Power House Economy

THERE is running in the technical power house papers a series of Dixon advertisements which are creating more than usual interest. The advertisements are in the form of a story and show the wonderful savings that have been made in a power plant. These experiences are all based upon actual power house performances.

The story starts with the General Manager looking over the statement of the Chief Engineer, and he is so impressed with it that he says: "Blamed if I see how the Chief can keep down his expenses the way he does with the rising cost of everything," and sends for the Chief Engineer. When the Chief gets the message he says: "I wonder why the G. M. is sending for me now." The General Manager tells the Chief Engineer that he doubts the cost figures as shown and believes that the Chief must have made some mistake, and says: "Either your figures are wrong or you are a better engineer than I thought you were," which pleases the Chief Engineer very much and gives him an opportunity to state how he made the savings. "I'll take you over the plant and show you how I did it, if you say so."

"I'm on," says the G. M.

"I cut the cost of cleaning tubes from 35 to 8 cents per tube," says the Chief, standing by the G. M. in front of the boilers, and tells how Dixon's Pioneer Boiler Graphite did this for him. Next the Chief shows the G. M. just how Boiler Graphite is fed into the system, and further explains how the Boiler Graphite is mixed. "The Graphite then feeds slowly all day," says the Chief.

"We use about a pint a day to each boiler, so you see the cost is a mere trifle," continues the Chief. "I have experimented with all kinds of scale treatment, but like Dixon's Pioneer Boiler Graphite the best."

In continuing to show how he has kept expenses down the Chief enthuses over the many advantages of Dixon's Boiler Graphite. "One great advantage," he says, pointing to the pump, "is the way it improves the operation of the feed pumps." He goes still further in detail as to just how it benefits the pump.

In these times of coal conservation the Chief's statement, "By using Boiler Graphite I save \$500 worth of coal," is well worth serious thought on the part of the readers of this article.

A workman cleaning a boiler drum causes the Chief to tell the G. M., "That fellow used to take four days to clean one drum, but now he cleans two drums a day."

The G. M. is told and shown by the Chief pointing to the steam gauge, "The boilers steam much easier than they ever did and I keep it there without giving as much business to the coal dealers as I used to." The Chief points out to the G. M. how he has had to spend less for repairs to the boilers by using Dixon's Boiler Graphite.

Up to this time all except the first three ads have dealt with savings made by the use of Dixon's Pioneer Boiler Graphite. It is the Chief's intention in this series to show how other Dixon products can save, so he tells about another product.

"Very often it is necessary to scrape or regrind the joints," says the Chief, pointing to a workman replacing boiler tube caps after smearing them with Dixon's Graphite Pipe Joint Compound. "That was our experience before using Dixon's Pipe Joint Compound. It makes a steam-tight joint, never sets or hardens, and the caps may be removed easily and replaced without loss of time, tools or fittings."

This is as far as the series goes at present, but, as said before, uses for other products will be told later and the ads reviewed in GRAPHITE.

Open Flame Furnaces

THE following letter was received by Mr. Henry C. Sorenson, representative of the Dixon Company, and it should be of much interest to foundry men, as it deals with a subject that has been discussed pro and con considerably during the past year.

Mr. Sorenson's correspondent has had a large amount of experience in the use of both crucibles and open flame brass melting furnaces, therefore the opinion expressed by him may be considered as coming from one who has made a careful study of the subject and knows whereof he writes.

"Supplementing our talk on the subject of Open Flame Furnaces, I would think them to be the most expensive and inefficient appliance ever put in a brass foundry for the following reasons:

"They take a large amount of fuel, if not as much as the crucible furnace; their linings are expensive, and if they are not as expensive as crucibles, they are nevertheless very expensive.

"Worst of all is the condition of the metal after having been melted and exposed to this poisonous oxidizing flame, and I do not understand how a company like a railroad company that are making their own castings can afford to continue the use of such a furnace in the face of the fact that the metal deteriorates so fast and to such an extent that it is only a matter of a few melts until the brass has reached a stage of inferiority and the metal is little if any better than junk.

"While it is a fact that copper and other non-ferrous metals can and are being melted in an open flame, such as the reverberatory furnace, we must remember that it is in the hands and under the supervision of thoroughly trained experts who can discern the slightest variation in the flame from its appearance.

"From such men we might expect fairly good work in proportion to the possibility in the open flame furnace, but nothing to be compared with what can be done where metal is protected in a crucible.

"The loss where metal is oxidizing at the rate it is in an open flame furnace must necessarily be considered as a melting loss, even though the weight in pounds may appear to be suffering no loss; at the same time the oxide that has been formed and immediately absorbed by the apparent clean metal is nevertheless a loss and can be discerned only by analysis. When this stage is reached the company is junking the price of brass castings, and not scrap brass, which is, of course, a large loss.

"My prediction is when the quality and price of crucibles reach the point they were at one time in the past, the open flame furnace will entirely disappear."

From Dixie Land

AN old-time user of Dixon's Silica-Graphite Paint writes us from Savannah, Georgia, where climatic conditions are very severe on protective paints.

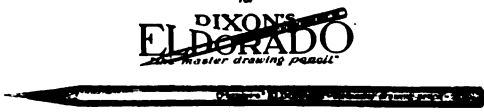
We quote from one of his letters:

"I have used Dixon's Silica-Graphite Paint on steam pipes and throttle valves where the heat has been as high as 550° Fahr. I have never seen any paint other than Dixon's that will give the satisfaction or withstand the heat more than two weeks without scaling off.

"Some time ago, I was unable to get Dixon's Paint, and

obtained another paint which was highly recommended. It scaled off in two days and yet I paid more for it than for Dixon's.

"I have also used Dixon's Silica-Graphite Paint with great success on smokestacks and boiler fronts. Sometimes I am unable to find Dixon's locally and this was the case a short time ago when I needed some for my roof. I don't understand why dealers generally do not keep it in stock."



DEALERS' SELLING GUIDE
for
DIXON'S ELDORADO
The Master drawing pencil

FINEST FOR EVERY PURPOSE

*Leads of very fine texture for
sketching service* *Graded to world's standard
in 17 degrees*

6 B	Varying degrees of extra softness	HB	Medium soft	5 H	Varying degrees of extra hardness
5 B		F	Firm	6 H	
4 B	6 B Softest	H	Hard	7 H	
3 B	Extra soft and black	2 H	Harder	8 H	
2 B	Very soft and black	3 H	Very hard	9 H	
B	Soft and black	4 H	Extra hard		

The following classes use chiefly the grades indicated:

Architects (and Architectural Draftsmen)—2B, B, HB, F, H, 2H
 Engineers (and Engineering Draftsmen)—HB, 2H, 3H, 4H, 6H
 Mechanical Draftsmen—3H to 9H
 Artists—6B, 4B, HB, 2H
 Bank Tellers (for checking deposit slips, etc.)—4B
 Bookkeepers—3H, 4H, 5H
 Builders—2B, HB, H, 2H
 Designers—H, 2H, 3H, 4H, 5H, 6H
 Engravers—HB, F, H, 2H, 3H, 4H, 5H, 6H
 Fire Insurance Companies (for mapping)—4H, 6H
 Lithographers—4B, 2B, HB, F, H, 3H
 Lumber Companies (for tally sheets, etc.)—4H, 5H, 6H
 Office Executives—2B, HB, F
 Photographers—5B, 2B, HB, H, 2H, 4H
 Stenographers—2B, B, HB
 Stock Brokers—2B, HB
 Stone Cutters—7H, 8H, 9H
 Writers (editors, reporters, advertising men, etc.)—6B, 5B, 4B, 3B, 2B, B, HB

For Tracing	{ B HB F	For Layouts	6H	Lettering Field Notes Detailing	4H	For Drawings not inked	3H	For Cross Sections	9H
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Retails at \$1.00 per dozen, or 10 cents each in all degrees

MADE IN JERSEY CITY, N. J., U. S. A., BY THE
JOSEPH DIXON CRUCIBLE COMPANY
 Est. 1827

Dealers' "ELDORADO" Selling Guide

A GUIDE has been prepared, at the request of the trade, as an aid to those selling Dixon's ELDORADO, "the master drawing pencil."

It is a cardboard hanger, 9" x 12", and shows the pencil in color, with a list of eighteen general classes of users, and noted opposite each class the degrees of hardness that will best meet their requirements. Thus in the line of "Architects," grades 2B, B, HB, F, H and 2H are indicated; opposite "Bookkeepers" appear grades 3H, 4H and 5H; and against "Office Executives," grades 2B, HB and F are set down as the most popular degrees of hardness.

Experienced technical men know the degrees that each one requires, but beginners in the technical field are not sure which leads will serve them best, and general pencil users have no idea what degrees their various activities call for. Therefore, the "Selling Guide," as illustrated herewith, enables the dealer to render an efficient pencil sales service to his customers. Of course the requirements of customers even in the same class are often different. A man who has a light touch will use a softer pencil than he who is more heavy-handed.

Readers of GRAPHITE who are interested in this line of pencils will please have their dealers show them the "Selling Guide," as it will aid them greatly in choosing the proper pencil.

Suspending Graphite in Oil

IN a paper contributed to the *Journal of the American Society of Mechanical Engineers*, Mr. C. H. Bierbaum makes the statement that to obtain permanent suspension of graphite in oils or the like, the particles of graphite must be less than one two-hundred-thousandth of an inch in diameter, and the oil must be free from acid or from any tendency to form acids by turning rancid. Mr. Bierbaum maintains that the use of these permanent suspensions of graphite is, however, undesirable, holding that with larger particles than are necessary for permanency of the suspension, the graphite is more effective as a lubricant. His view is that if the particles are large they will be caught and retained between the opposing surfaces of a bearing, should these approach near to each other owing to a failure of the oil film; while under similar conditions he asserts particles of the size necessary for forming a permanent colloidal suspension of the graphite would prove ineffective. This is the position that the Dixon Company has always taken in advocating the use of Dixon's Ticonderoga Flake Graphite for lubricating purposes.

Ticonderoga Flake Graphite is of unusual thinness of flake. So far as the Dixon Company is aware, there is no flake graphite mined so thin in flake. In using this thin flake graphite for lubricating purposes, the flakes are caught by the microscopical irregularities of the bearing surfaces and form a veneer-like coating of marvelous smoothness and endurance.

With surfaces so coated, oils or greases are far more effective, and the graphite is retained for long periods of time. Where the graphite is of such minute degree of fineness mentioned by Mr. Bierbaum, it is readily squeezed out with the oil or grease, and loses its efficiency as a lubricant.

Forty-two Years of Unbroken Faith

Dayton, Ohio,
December 3, 1917.

The Joseph Dixon Crucible Co.,
Pencil Department,
Jersey City, N. Y.

Gentlemen:

I am to-day in receipt of the samples of ELDORADO drawing pencils—one HB, one H and one 4H—and must say they are fine. I have been a user of Dixon's pencils since 1875. When in Canada we bought the S-M finished in round black and paid ten cents each for them when others were selling for five cents. I have always found them just as represented and also that the leads were the only ones suitable for marking on hard wood, such as hickory and ash. Further samples are unnecessary, as the card will clearly designate which grade is needed for any particular purpose. I find the 4H just the one for making a quick sketch for insurance, which we have to make quite often.

Again thanking you for your attention to my request,

Yours truly,

Ralph Rochester.



Shops, Lackawanna Bridge Company, Buffalo, N. Y.

THIS large steel erecting plant has recently used many barrels of Dixon's Silica-Graphite Paint for protective purposes. What better example could we give of the realization among conservative, well-managed companies, that rust costs more than protective paint insurance?

Owing to the high cost of labor, some concerns are putting off painting. No matter what the cost, it is a penny-wise and pound-foolish policy to do this. It often brings on unnecessarily a capital cost for a new structure.

Protect with Dixon's Silica-Graphite Paint and decay, rust, corrosion, etc., are defied.

Protective paint insurance pays. Do not put off painting for another month. Paint with Dixon's Silica-Graphite Paint to-day and do not worry to-morrow.

Early Saving

I SAW the other day three eight-dollars-a-week young fellows; I say eight dollars a week, for they looked it.

All three were smoking; all three were sitting in what they called a "Dago's" shine chair getting a "shine." After the shine all three went to a barber shop for a "shave." Here were three wastings of cash by these eight-dollars-a-week boys.

First, they need not smoke, or need not until they can better afford it. Next, they should both shave themselves and shine their own shoes. Done, as it doubtless is, twice a week, it costs them fifty cents a week; this is \$26 per year, and is equal to the interest on \$500 a year at five per cent.

I don't speak for undue saving; I rather bespeak liberal spending if one can afford it, but an eight-dollars-a-week boy has no judgment when he throws away \$500, for this is what he does when he wastes the interest on that much capital. The saving system, until you can afford to spend, would put many a "young feller" beyond the caprices of fate.

The above was written for *The Business Monthly Magazine*, July, 1906, by the late John A. Walker, Vice-President and Treasurer of the Joseph Dixon Crucible Company. It contains so much sound sense and kindly advice that the message should be sent out again.

Sugar

BECAUSE of the great difficulty we all have had in obtaining the necessary amount of sugar for our household needs as well as for our luxuries, in the way of candies, it may be that we are more interested than ever in the matter of sugar,—the amount produced, and where it comes from. *The Times* of Cuba tells us about cane sugar.

After fourteen centuries of experiment with sugar cane, two spots have established themselves as preëminently suited to its culture. These spots are both islands, one in the West Indies—Cuba, and one in the East Indies—Java. The amount of cane sugar produced annually is between 8,000,000 and 9,000,000 tons of 2,000 pounds each.

Cuba and Java are both long, narrow islands of about the same area, one lying about as far north of the equator as the other lies south; both have about the same amount of heat, moisture and wind; but in the extreme fertility of its soil Cuba shows a marked superiority over Java.

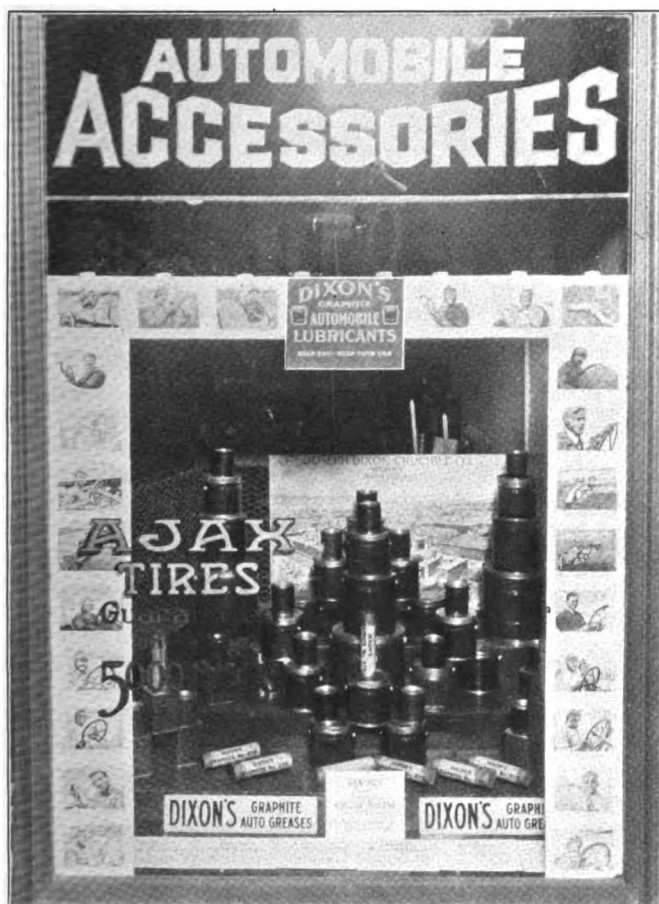
In the United States we raise in Louisiana and Texas together about 151,000 tons. The 150,000 tons come from Louisiana, and the 1,000 tons from Texas.

The history of cane sugar in Cuba reads like a romance.

About twenty years elapsed after the discovery of Cuba by Christopher Columbus, in 1492, before sugar cane was sent by Spain to Cuba for planting. The experiment showed the Spaniards the perfect suitability of Cuba's fertile soil for cane's growth and development, but the Spanish government of the sixteenth and seventeenth centuries was gold-mad and discouraged agricultural production of all kinds in favor of mining. Indeed, after a very few years, the cultivation of sugar cane in Cuba was forbidden, and even after that prohibition was withdrawn, cane was permitted to be grown only under governmental monopolies and privileges which had such a restrictive influence that no real progress was made with cane on the island until about 1772. Since Cuba freed itself from the yoke of Spain, its sugar production has increased enormously.

There are other islands in the West Indies which might be largely productive of sugar, were it not, as *The Times* of Cuba puts it, that "they are still living, politically, in the tempestuous pirate-times of centuries ago."

The above from *The Times* of Cuba is taken by that publication from "Cuban Cane Sugar," the Bobbs-Merrill Co., Publishers.



Lee Auto Supply Co., Syracuse, N. Y.

THE above window is an example of how a very attractive display may be made by use of cans of Dixon's Graphite Automobile Lubricants, a number of the racing photos, and cards explaining the use of the various greases.

This window, together with a number of others in Syracuse, N. Y., was arranged for the State Fair by our Mr. Thurston. Several of these window displays have been shown in the last three issues of GRAPHITE.

We suggest that all dealers make use of their windows this spring and summer to tie up with the advertising campaign that will be started in practically all the larger cities in the East, Central West, and on the Pacific Coast. Here is an opportunity to let your customers know that you sell Dixon's Graphite Automobile Lubricants. At the same time you can explain visually why Dixon's are the 100% lubricants and where and how they should be used.

We will be glad to publish in GRAPHITE from time to time such of these windows as are suitable for this purpose if photographs are sent to us.

Dealers will find our salesmen glad to coöperate with them as much as possible in trimming their windows. We will also be glad to send direct from the General Offices material and suggestions for trimming if we are acquainted with the necessary information about the window.

Sermon

By the President of the Graphite Club

BE it known again, in other words, we repeat once more, that there is a Graphite Club made up of the young men of the Dixon staff. The club numbers about three

score, not in years but in number, although in years some are less than a score, and a few, very few, have passed the three score, and three or four are beyond the three score and ten.

Perhaps because of the make-up of the club, the president, Mr. L. W. Brooks, saw fit, in a communication to the club, to preach "a little sermon on the New Year" as follows:

"No doubt it has occurred to you that we are here for a purpose, though it is easy to lose sight of the fact in the rush of daily routine. However, the first of the year is a good time to take account of stock, for each of us to analyze our own work in relation to the organization as a whole, and see if it is not possible to facilitate the handling of business by improved, time-saving methods. 'Habit' is no excuse for continuing a practice if it can be done in a better way. We owe it to ourselves and to our employers to keep out of ruts. During war-time, especially, it is the duty of every man to do his bit by maintaining a high personal efficiency.

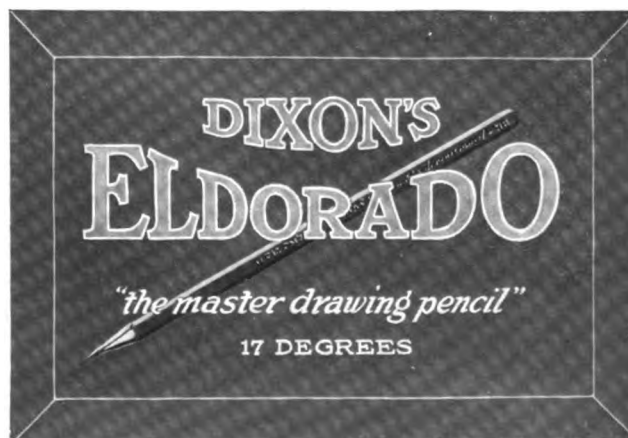
"Suppose *you* employed three men. One of them watched the clock and did no more than he could help; another was a steady plugger but had to have a blueprint and a set of instructions for everything he did; the third was not only a good worker, but did not bother you with unnecessary questions, solved his own problems, offered good suggestions—in other words, 'used his head.' Which of the three would you consider the most valuable and reward accordingly? The person who cannot guess the moral gets the brown derby.

"The ultimate purpose behind all our letter writing, advertising, circularizing, sampling and what not is to sell goods—not merely the love of spending time and money on perfect strangers. That fact should always be borne in mind and everything we do be made to count, for our individual success depends solely upon how much we contribute to the general good. The fellow who succeeds must be mentally alert and use his tower of thought for other purposes than to hold his hat.

"Let's make our work during 1918 clean-cut, efficient, above criticism."



"If we would build ourselves or our business up firmly, we must lift up those about us; in this way our own standing is made secure."





The Food Situation

HALF the world depends on the United States for its food. Millions of men in England, Scotland, Ireland, in France, Italy and Belgium, have been taken from peaceful pursuits for making war and munitions. They are gone from the farms. Even before the war, these countries raised less than they ate.

Their need is now greater than ever, their production is less than its want; they are cut off from half the world by the shortage of shipping.

Therefore our associates in this war depend on North America for food as they have never depended before, and they ask us for it with a right which

they have never had before. For to-day they are our companions in a great war against a common enemy. For the present it is they who are doing the fighting, the suffering, the dying—in our war.

One million of the best young men in the United States will soon be fighting side by side with the millions of brave soldiers of France, Great Britain, Belgium and Italy.

Millions of the men, women and children of the United States cannot go abroad and fight the enemy face to face. But they can fight by helping the fighters fight.


THE UNITED STATES FOOD ADMINISTRATION asks you to get behind our soldiers, sailors and associates by sending them now the most food possible in the least shipping space. Every man, woman and child in America can help by eating less wheat, beef, pork, fats and sugar, more of other plentiful foods which cannot be shipped, and by avoiding waste.

**EAT PLENTY, WISELY, WITHOUT WASTE
AND HELP WIN THE WAR**

Reprint from material furnished by the

UNITED STATES FOOD ADMINISTRATION

What the Racers Say




DAVE LEWIS
writes: "I am thoroughly convinced of the merits of Dixon's Graphite Automobile Lubricants and will both use and recommend them in the future."



BARNEY OLDFIELD
after his first use of Dixon's Graphite Automobile Lubricants, wrote: "I have never before experienced the sense of safety and lubrication surety that I felt to-day."



LOUIS CHEVROLET
writes: "I consider Dixon's Graphite a very satisfactory lubricant and intend to use it in my future races."




EDDIE RICKENBACHER
writes: "I shall use Dixon's Graphite Automobile Lubricants, particularly No. 677, in all future races."

Foreign Trade

STATISTICIANS and others who are making a thorough study of war conditions and war trade, advise us that foreign trade is insurance against future depression. The merchant or manufacturer who will secure a good hold in foreign markets during the present turmoil will be in the strongest position when the inevitable depression comes about. Roger Babson wishes his clients to give careful attention to this matter, for the day is coming when they will be obliged to have a broader sales field than is necessary at the present time.

The American Manufacturers Export Association, 160 Broadway, New York City, is a society with some seven hundred members, made up exclusively of manufacturers seeking export business and information on export matters. The dues are \$50 per year, and the service rendered is of much greater value. Information as to the scope of this association and what it can do for members will be furnished by Mr. Stanley J. Quinn, Secretary.

IN 1913 the Smiths and Browns stood first and second in New York City, and the Cohens and Levys stood eighth and ninth in the list of names in the directory; while in 1917 the Cohens stood first, the Smiths stood second, the Browns stood third, and the Levys stood fifth.



DIXON'S
ependability

is the reason why practically every racing driver in America uses

DIXON'S
GRAPHITE
Automobile
LUBRICANTS

to keep his car friction-free.

Dixon's will perform the same service in your car.

Ask your dealer for the Dixon Lubricating Chart

JOSEPH DIXON CRUCIBLE CO.
Jersey City, N. J.
Established 1827

Bouquets

We're waiting for yours



"I RECEIVED the samples of Dixon's Graphite you sent me (Air Brake and Triple Valve Grease and Flake Graphite). I will state that I have given them good tests and find them all to be what is claimed for them. I consider them the best thing ever made for Air Brake Work or Lubrication. Having been engaged in that kind of work for thirty-three years, I should know something about the value of some different kinds of lubricants that are being used. I will state that we use large quantities of the Dixon Products in the line of Graphite in its different forms and grades, and I believe every one that I know that uses Dixon's Graphite can give it the highest recommendation."

"THE samples of Dixon's Air Brake Graphite and Graphite Air Brake Grease have proven very satisfactory.

"The ——— furnished Dixon's Air Brake Graphite in cans up to about two years ago; since then we have been using graphite in bulk, which is very unsatisfactory.

"I have taken the matter up several times with the General Air Brake Inspector, requesting him to arrange to have both the above articles furnished, but so far without results.

"I have a use for Air Brake Graphite which possibly you do not know of. It is mixed with valve oil to a very thick paste and used on face plates of spot valves; it will not smear and gives a true bearing, also greatly assists in keeping face plates true.

"Thanking you for the samples, I remain."

"WE assure you that we will let no opportunity escape to follow up an inquiry of this kind and keep in touch with the party whose name appears on our mailing list. We believe, as you, that this is one way of increasing business in most every line.

"We have handled your goods for some years and have yet to hear the first complaint about them.

"We thank you for your coöperation and, assuring you of our sincere endeavors, remain."

◆ ◆ ◆

HE who will not answer to the rudeness must answer to the rock.—*Archbishop Hervé.*

GOLDEN BOUQUETS

OR WHY

DIXON'S ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"REPLYING to your recent favor: A short time ago your salesman recommended the ELDORADO pencil to us as a very good drawing pencil, and they proved to be very satisfactory."

"YOU requested me to give an opinion of the ELDORADO pencils after use. They are perfectly satisfactory to me, fully as much so as the ——— pencil, with the added merit—to me—of being an American product. I shall certainly get some of these just as soon as my present stock of ——— are used up."

"ACKNOWLEDGING receipt of your favor of the 12th inst., we are pleased to advise that your ELDORADO pencils appear to be all that we require in a drawing pencil, and we expect to specify this pencil on our future orders."

"REPLYING to your letter, will state that the sample ELDORADO pencils were all right and I have since bought a dozen of them from ——— of New York, who furnish my drawing supplies."

"REPLYING to your favor of the 12th inst., wish to inform you that we have tried your sample ELDORADO pencils and found same very satisfactory."

"I HAVE found your ELDORADO pencils thoroughly satisfactory. It has been a pleasure to use them."

"REPLYING to your favor of December 31st, we found the sample ELDORADO pencils submitted entirely satisfactory and have ordered a supply of our local dealer."

"WE have yours of the 23rd and are pleased to advise that we are using your ELDORADO pencils with quite satisfactory results."

"REPLYING to your letter with reference to ELDORADO pencils, would say that we are very much pleased with the ELDORADO variety. We purchase all of our office supplies through ———, and we can assure you that your product will get the preference when pencils are being purchased."

"WITH reference to the sample ELDORADO pencils which your representative left with the writer some time ago, would say that we found them very satisfactory."

"THIS letter is to let you know that the sample pencils were received and entirely meet with our requirements; and when we order, will specify the ELDORADO."

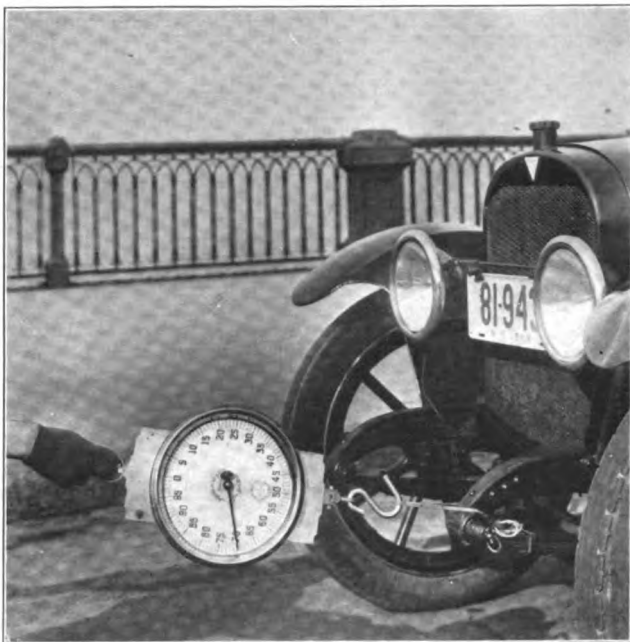
"IN answer to your letter of January 23rd, would say that we found the samples of ELDORADO pencils which your representative left with us very satisfactory and have since ordered a couple of dozen, which we are now using."

"MR. ———, manager of the ———, handed us the pencils he received from you, as he has no use for pencils of that class, while we use them constantly in making tracings of land plates, which we then retrace with indelible pencil so as to take impression copies. He turned over to us the 'Best White' for blue prints.

"When we tell you we have been using these pencils in our work for several years you will then understand that we like them well; and we not only take pleasure in commending them, as well as your other makes for general use, but we also take pleasure in thanking you for these. All the Dixon goods we have ever tried have proven entirely satisfactory."

"Eldorado" for General Use

"I CONSIDER your pencils most admirably adapted to general use (for ordinary writing and otherwise). The flow of the lead is so smooth and easy that there is a noticeable saving of effort in writing. It will be discovered at once that writing or figuring is done with more ease than with the ordinary pencil and at the same time better writing is produced. I regard this pencil as in the nature of a labor-saving device. Some will prefer No. 2 or 3, others No. 4 or 5, but they are all simply superb. I advise all those who appreciate a high grade pencil to give the ELDORADO a trial. It will do the rest."



70 lbs. of pull to move the car before being Dixonized



55 lbs. of pull to move the car after being Dixonized

Before and After *Dixonizing*

Don't you remember how much easier your bicycle ran after being lubricated with Dixon's Graphite? The same is as true to-day with automobiles as it was twenty years ago with bicycles. The above illustrations visualize the pull necessary to move a car before and after it has been lubricated with Dixon's Graphite Automobile Lubricants.

In spite of lubricating oils and greases, friction continually wears away the bearings because they are full of microscopical hills and valleys.

DIXON'S GRAPHITE Automobile **LUBRICANTS**

are the only lubricants that will permanently cover the microscopic roughness of bearings with an anti-friction "film" that prevents metal-to-metal contact and hence prevents wear.

With selected flake graphite as a basis, we have produced a line of graphite lubricants especially designed for every part of the car.

Write for Booklet No. 190-G

Made in Jersey City, N. J., by the

JOSEPH DIXON CRUCIBLE COMPANY



ESTABLISHED 1827



THE DE VINNE PRESS
NEW YORK

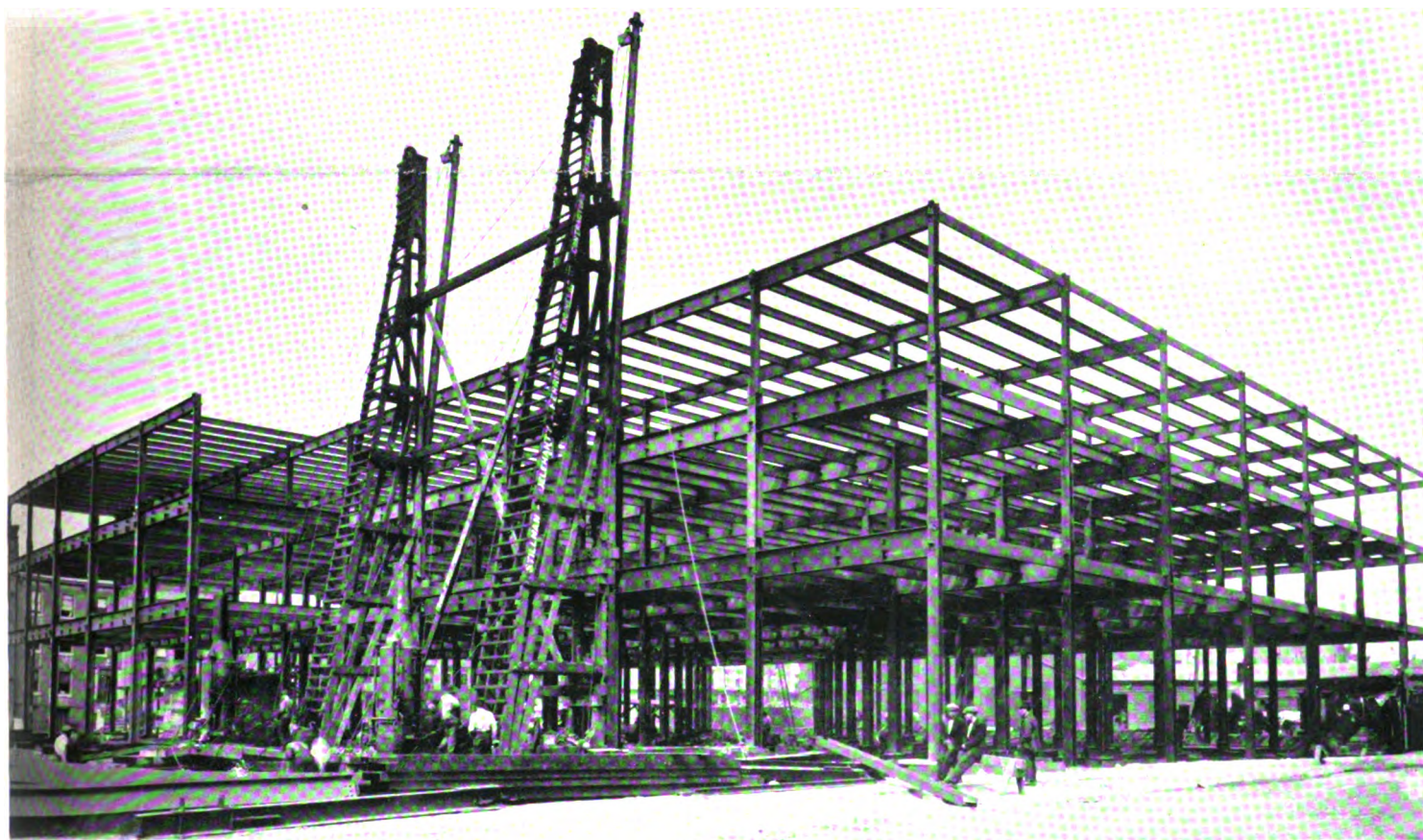
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No. 4

Graphite

VOL. XX

APRIL, 1918

No. 4



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868

**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**

DIRECTORS

GEORGE T. SMITH GEORGE E. LONG
WILLIAM G. BUMSTED EDWARD L. YOUNG
J. H. SCHERMERHORN HARRY DAILEY
ROBT. E. JENNINGS

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GEORGE E. LONG *Vice-President*
J. H. SCHERMERHORN *Vice-President*
HARRY DAILEY *Secretary*
WILLIAM KOESTER *Treasurer*
ALBERT NORRIS *Ass't Sec'y & Ass't Treas.*

PURCHASING AGENT

JOHN I. McComb

OFFICES AND SALESROOMS

NEW YORK SALESROOM 68 Reade Street
PHILADELPHIA SALESROOM 1020 Arch Street
SAN FRANCISCO SALESROOM 155 Second Street
CHICAGO OFFICE 1323 to 1327 Monadnock Block
BOSTON OFFICE 347 John Hancock Building
ST. LOUIS OFFICE 501 Victoria Building
BALTIMORE OFFICE 616 Professional Building
BUFFALO OFFICE, 409 Erie County Savings Bank Bldg.
ATLANTA OFFICE 225 Peachtree Street

EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

SOUTH AMERICAN AGENTS

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

ALFREDO J. EICHLER, *General Agent*
Agent for Argentine, Uruguay and Paraguay
N. H. Pratt, Calle Cangallo 666, Buenos Aires
Agent for Chile, Peru, Ecuador and Bolivia
Enrique Seller, Calle Huerfanos 761, Santiago, Chile
Agent for Brazil
M. V. Powell, Edificio Guinle, São Paulo, Brazil

CUBAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS
William Croft, Room 424 Lonja del Comercio, Havana

PORTO RICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS
H. Glyde Gregory, Royal Bank Building, San Juan

LATIN-AMERICAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.
National Paper and Type Company, 31-35 Burling Slip, N. Y.
With Branch Agencies in Mexico, Cuba, Peru, Argentine, Uruguay, Venezuela, Porto Rico and Colombia

CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.
A. R. MacDougall & Co., Ltd., 266-8 King St., West, Toronto, Ontario, Can.
FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS
Canadian Asbestos Company, Montreal, Quebec, Can.



Naked Steel

like the naked human, is at the mercy of the elements. The better the covering, the better the protection.

As a protective covering for all metal and for wood

DIXON'S SILICA GRAPHITE PAINT

has a world-wide reputation of over fifty years. It gives greatest protection and greatest economy. Adopted by many of the leading railroads of the country, after exhaustive tests, for construction and maintenance work because it costs the least per year of service. Made in First Quality only.

*We can prove it if you will write for
Booklet No. 190-B*

Made in Jersey City, N. J., by the
JOSEPH DIXON CRUCIBLE CO.



Established 1827





Vol. XX

APRIL, 1918

No. 4

Trade Not Hurt by Economy

MR. BABSON tells us that trade is not hurt by economy. "This talk of saving is just a question of spending, an option of whether you spend for temporary or permanent account. The public calls it saving when a dollar is put into the bank, but the money is almost immediately loaned out and spent for machinery, improved roads, or other permanent goods. The less there is spent for transitory merchandise, such as food and clothing, the more will be spent for factories and farm implements. This keeps up the total volume of trade, regardless of thrift or extravagance."

Mr. Babson tells us that he has received practically as many reports of increased as decreased sales. In fact, the most serious difficulties reported are not traceable to economy or lack of demand, but lack of supplies.

Mr. Babson reports that sales are 15% above sales of a year ago. This, of course, represents business in terms of money and takes no account of the great increase in prices. Allowing for this price advance of about 37%, Mr. Babson estimates that the actual volume of business in terms of tons or other units is below that of a year ago by about 14%.

What is a Fair Profit?

PRINTERS' INK tells us that the business man usually begins by deciding what he wants to do, and then goes ahead in the most direct way, and if his project involves questions of law he refers those to his attorney for advice. But official Washington begins always by reading the law to see what it is authorized to do. If there is no definite Act of Congress bearing on the matter, then it gets the next best guide possible, perhaps an official statement of some department head or a proclamation by the President.

Viewed in this light, it is found that many official utterances are really definitions approaching law in their exactitude, and official Washington goes to them first for chapter and verse on any subject because it is dealing with something broader than private business—matters that affect the whole country, and which must be so balanced that not only the differences in local conditions and special interests have to be considered, but also a good many miscellaneous prejudices, fears and hopes scattered around the map of our broad country.

Official Washington is now trying to work out a national definition for a perfectly stunning question:

What is a Fair Profit? And probably the best definition of a fair profit is found in a statement by President Wilson.

"By a just price," he has said, "I mean a price which will sustain the industry considered in a high state of efficiency, provide a living for those who conduct it, enable them to pay good wages, and make possible the expansion of their enterprise, which will, from time to time, become necessary as the stupendous undertaking of this great war develops. Such prices are necessary for the maintenance and development of industry. We could not wisely or reasonably pay less."

In the business world to-day this great question is also being discussed, and in *Printers' Ink* for November 22d a most excellent and comprehensive article covering several pages will be found.

California

MANY times even readers who are as intelligent and well posted as those of GRAPHITE either don't know or have forgotten some of their geography. Wonder how many of the readers of GRAPHITE realize that California contains the greatest Pacific port, San Francisco, as New York contains the greatest Atlantic port. California produces enormous quantities and many kinds of valuable fruits, and largely supplies our eastern markets with these fruits. It raises also great quantities of grain and vegetables. It has extensive irrigation systems from the abundant waters of the mountains, and the people are constantly increasing the value and productiveness of their farms.

California has a great future. To-day it is the leading state in the production of petroleum. It is rich in many minerals, and was for a time the first state in the production of gold. There is wonderful scenery in many sections of California, such as the Yosemite Valley, the grand mountain scenery, the beautiful, fertile valleys, and the attractive beach resorts. Many people in the northern part of California spend their winters in Southern California, because of its mild, balmy climate amid flowers and fruits, while their friends in the North are in a land of snow and ice.

California has three-fourths the area of Germany and is equal in size to all New England, with New York, New Jersey and Ohio added. From north to south it is 780 miles long, and has more than one thousand miles of coast-line. California has the highest and lowest land of the United States, the greatest variety of temperature and rainfall, and of products of the soil.—*Popular Educator*.



Lieutenant Herbert Lester Hewson
United States Naval Reserve Force

MR. HEWSON was a Dixonite from 1909 until the Fall of 1917, when he received his commission as lieutenant, senior grade, in the Naval Reserve Force. At the time he left he was a railroad representative. To this position he rose from pencil and general line salesman.

Mr. Hewson has had a wide and varied experience in the Orient and speaks both Chinese and Japanese and writes Chinese. He will be of great service to the country in whatever he is doing.

The January, 1916, issue of GRAPHITE published the story of his young life and we at this time can add nothing.

We and all of his friends wish Mr. Hewson all success in his new undertaking and hope for his return to his former position.

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"NONE, therefore, who fears or grieves or worries, or who is anxious, is free; but whoever is released from griefs and fears and anxieties, is by that very thing released from slavery."—*Epictetus*.

"THE best and only friends a man can have are his good deeds; they never desert him, but plead his case till the final judgment."

"THE drunkard is no more intemperate than the glutton and the prohibitionist."

Boiler Scale Costs Money

SCALE on tubes and other heating surfaces has always been known as a poor conductor of heat and hence undesirable to have in a boiler. Researches which determined just how poor a conductor scale actually is were made at the University of Illinois. The heat retarding effect of different kinds of scale in the table below is calculated from the figures obtained from these tests.

The table is based on coal at a uniform price of \$2.50 for a ton of 2,000 pounds, delivered at the boiler room. Each plant is assumed to run at full rated capacity for 300 days of 10 hours each during a year. Certain average rates of coal consumption have been taken for the different sizes of plants, varying from 3½ pounds for a horse-power hour in the smallest plant to 2 pounds for a horse-power hour in the largest size mentioned.

If coal costs more or the number of running hours is higher the costs for clean boilers and the loss due to scale will both be increased in proportion.

HORSE POWER OF PLANT	YEARLY COST OF COAL WITH CLEAN BOILERS	EXTRA COST (OR LOSS) EACH YEAR CAUSED BY SCALE, ACCORDING TO THE THICKNESS				
		1-32 inch	1-16 inch	1-8 inch	1-4 inch	1-2 inch
100	\$1,312	\$111	\$162	\$243	\$370	\$595
200	2,624	222	324	486	740	1,190
300	3,936	333	486	728	1,110	1,785
400	4,500	381	557	833	1,270	2,035
500	4,688	397	581	867	1,323	2,125
750	5,625	476	696	1,040	1,587	2,550
1,000	7,500	635	930	1,387	2,116	3,995
1,250	9,375	794	1,160	1,733	2,645	4,245
1,500	11,250	952	1,391	2,079	3,175	5,100
2,000	15,000	1,270	1,859	2,773	4,232	6,802

WHAT SCALE COSTS THE COAL USER

This table shows the money loss which any power plant owner may suffer as a penalty for not keeping his boilers clean as explained in the above article.

The above article and table appeared in the January, 1918, issue of *Factory*, and from the table it may be seen that scale is an expensive proposition and means should be taken to free boilers from it.

There is no more effective or easier way than by using Dixon's Pioneer Boiler Graphite.

It does not act chemically, nor does it attack metal like strong compounds do. The graphite simply works through the minute fissures in the old scale and gradually penetrates between the scale and the metal. The action is purely mechanical.

Graphite may be used in any feed water and any type of boiler. Dixon's Pioneer Boiler Graphite does not deteriorate as compounds do, nor will it evaporate or dissolve. It cannot, under normal conditions, pass from the boiler and render the steam unfit for industrial purposes. For this reason it finds special favor in ice plants, laundries, breweries, etc.

Those interested in removing scale from their boilers should write for booklet No. 190-T, "Graphite for the Boiler." It is full of useful information.



**Storage Building,
Joseph Dixon Crucible Company**

THE large structure shown on the front cover is the steel framework of the new storage building in process of erection near the Dixon Company's factory in Jersey City, and the illustration above shows the completed building. It occupies an area 200 x 200 feet. The erection of this building was made necessary by the largely increased business of the Dixon Company, which obliged the Company to make use of all available space in its factory for manufacturing purposes only. The new storage building has been specially designed for the storage of raw materials and for the most convenient handling of same.

Mr. Hugh Roberts was the architect; Robert W. Hunt & Company, inspecting engineers; McClintic-Marshall Company, fabricators; Stillman-Delehanty-Ferris Company, general contractors, and Messrs. William Robertson & Son, builders.

The electrical wiring, etc., was installed by the Watson Flagg Engineering Company, and the elevators are manufactured by the Otis Company.

The entire tonnage of steel and all exposed metal work, together with some of the other exposed surfaces, was protected with Dixon's Silica-Graphite Paint.

The Dixon Company insisted upon its Silica-Graphite Paint being used, as it knew by an experience of over fifty years that there is no paint that will give superior or equal protection to exposed surfaces.

Dixon's Silica-Graphite Paint resists dampness for the longest period of time, and resists the attacks of attrition, acids, gases, etc. It differs from the usual graphite paint in that the silica is mined with the graphite and is not mechanically added. Silica as well as graphite is a practically inert material, the silica having the advantage of largely protecting the soft graphite, the same as the alloy in gold jewelry protects against excessive wear.

If any of our readers are interested in protective paints, we should be very glad if they will ask us for our "NOTABLE BUILDING BOOKLET."

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"It is said there are three things that are of equal value: 'Rev.,' 'Esq.,' and the twist in a pig's tail."

"MAN judges the writings of others by his own wisdom, and the less he knows the more ready he is with an 'opinion.'"

Paint for Roofs

THE Eureka Suction Company, of Loudonville, Ohio, manufacturers of dental supplies, are known worldwide for the quality and service of their goods, and appar-

ently they require "quality and service" in the paint that protects their buildings.

We are gratified to reproduce the following testimonial:

"The writer was up several days ago on several buildings that I look after, the roofs of which are protected with Dixon's Silica-Graphite Paint. They look as if they had just been painted so far as the surface of the paint is concerned, as I got down close to examine.

These roofs were painted five years ago, which does not speak bad for Dixon's Silica-Graphite Paint. We used one barrel last time. You are welcome to use our letter if it will help the general public to find out what a difference there is in roof paints. Dixon's Paint for us in the future, regardless of cost."

EUREKA SUCTION COMPANY.



Willis Avenue Viaduct, New York City

THE presence of sulphurous gases, acids and smoke, combined with exposure to the elements in cities near the sea, constitute conditions which are most favorable to the rapid corrosion of steel work.

Steel viaducts and bridges over railroad tracks are subject to all of these destructive agents in the greatest degree, none more so than the Willis Avenue Viaduct over the New York, New Haven and Hartford Railroad freight yard and the Harlem River, New York City.

Dixon's Silica-Graphite Paint has given a service of five years on the above structure, and it is still in excellent condition.

Time tests the efficiency of a paint. Dixon's Silica-Graphite Paint has been on the market for over fifty years. We have records of its durability in all climates.

Dixon's Paint saves in labor charges because it LASTS LONGER. Do not buy protective paint on the "per gallon" price only. Buy Dixon's Silica-Graphite Paint because it is the lowest in price *per year of service*.

What the Chemist Does

A Railway Company hires a Chemist to find along its Line the Elements to be Compounded into Profit

RAILROADING is hardly regarded as a chemical enterprise, yet southern railway companies find it profitable to hire a chemist to find what along its line may be turned into profit.

Among other things, they found clays, graphite, alundum, crystolon, and other materials. They have also employed chemists to demonstrate to them what they might avoid in the saving of waste. For example, they found that it was wiser to buy coal by the heat units contained in it than by the weight of the coal itself. Moisture and ash come high when bought by the ton in coal.

They have looked into savings made possible by better installation of all steam pipes, by better lubrication, and especially they have found (and this is what the Paint Department of the Dixon Company desires to call particular attention to), through their chemist, that it is infinitely more economical to buy paints that give "low cost per year of service," rather than "paints at a low cost per gallon."



Raritan River Bridge, New York & Long Branch Railroad

Between Perth Amboy and South Amboy, N. J.

THIS structure was erected in 1908 and painted with Dixon's Silica-Graphite Paint.

Repainting occurred in 1913, and Dixon's Paint was again selected, a service of six years under conditions of sea air, salt air, locomotive and factory smoke, gases, acids, and other deteriorating agents.

Repainting has not occurred since 1913, and from reports received recently the structure is still in excellent condition, and repainting unnecessary.

Dixon's Silica-Graphite Paint is used as standard construction and maintenance paint by many of the leading railroads of America, the Government railways of India, South and Central America, etc., because it is the lowest in cost per year of service. It saves in labor charges, because it **LASTS LONGER**; therefore is worth more per gallon.

With Dixon's Silica-Graphite Paint goes a guarantee that best materials only are used, our standard practice for over fifty years.

Changing Hands

WHO does not remember, even in his earliest days, Babbitt's Soap, and the wonderful advertising of "Babbitt's Best" away back in the sixties, just after the Civil War?

The Babbitt soap business was started in 1836, and "Babbitt's Best" Soap was the first laundry soap to be extensively advertised. The writer recalls that when he was a clerk in a country store in Connecticut, Babbitt's advertising man visited all of the grocery stores and endeavored to get each one to stock with Babbitt's Soap. The reason given was that Babbitt intended to sample the town and there would be a demand for "Babbitt's Best" Soap. Most of the grocers laid in a small stock, and only one grocer laid in a large stock. The sampling was done, each housewife getting a cake of soap and a circular, and the local papers getting a good advertisement.

The old-time grocers said it was a foolish scheme and the women wouldn't want to buy soap very soon after having received a free cake. Nevertheless, to the surprise of the local grocermen, their small stocks were quickly disposed of, and the other grocery, which happened to be composed of two smart and far-seeing young men, reaped the benefit of the deal.

The entire stock, according to *Printers' Ink*, of \$3,000,000 of B. T. Babbitt, Inc., New York, manufacturers of Babbitt's Soap, Babbitt's Lye, and other cleansers, has been sold to the Mendelson Corporation, also of New York.

Bridges, Buffalo, Lockport & Rochester Railway Co., over Barge Canal, near Rochester, N. Y.

Six Years' Paint Service



THE bridges illustrated above, of the Buffalo, Lockport & Rochester Railway Company, were painted six years ago (1912) with Dixon's Silica-Graphite Paint. Some of Dixon's records run as long as 15 years.

General Manager and Treasurer W. W. Foster and his maintenance engineers are railway officials who realize that it pays to save good property with a coat of long-service paint.

Dixon's Silica-Graphite Paint costs the least *per year* of service because it lasts longer, and saves in yearly outlay for labor and material.

Write Paint Department for long records, illustrated literature, etc., in your line.

Mistakes and Shortcomings

WHAT Elihu Root said about mistakes and shortcomings in the conduct of the war may well be applied to commercial business. He said: "Of course there have been mistakes and shortcomings. It would be a miracle if there were not. Everybody agrees to that." He then went on to say that when there are mistakes it is a good thing to have them pointed out,—that sincere and constructive criticism is a very useful thing. But we should always be careful that our criticisms do not in the slightest degree divert, decrease or discourage the heartiness of those who are serving us.

We should not allow small irritations and petty prejudices and personal predilections to weaken our judgment or lead us into language unbecoming our positions or unfair to others who are not in position to make reply in kind.

The chief officer may some morning find himself in a mood that should call for silence or absence from his fellow-men, but he "relieves his mind" on a subordinate who in turn passes it along to the next, and so on it goes down to the office boy who "relieves his mind" by kicking the office cat out of doors. This is destructive and obstructive.

No institution, governmental or commercial, can hope to succeed without harmony and full coöperation. We may well bear in mind the words of Abraham Lincoln: "With malice toward none, with charity for all, with firmness in the right, as God gives us to see the right, let us strive on to finish the work we are in; to bind up the nation's wounds; to care for him who shall have borne the battle, and for his widow and for his orphan; to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations."

Sunlight and Happiness

THE Fortuna Machine Company of New York publish a little house organ known as the *Fortuna Magazine*. In it there is always to be found some original writing and original thought. It says to us:

"Did you ever stop to think how God does not put all His happiness into corn, potatoes and flour? Did you ever notice the prodigality with which he scatters these sunbeams over the universe?"

It tells us that God flings the auroral beauties around the cold shoulders of the earth, hangs the quivering picture of the mirage above the palpitating heart of the desert, and asks if these are wasted sunbeams. It adds that this may be infidelity, but if it is, it would like to know what faith means. The writer adds further:

"I came into this universe without my volition—came and found a loving mother's arms to receive me. I had nothing to do with the preparation of my reception here. I have no power to change the environment of the future, but the same power which prepared the loving arms of a mother to receive me here will make proper reception for me there. 'God knows better than I what is good for me, and I leave it with God.'"

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"HAPPINESS, like the blue of the sky, cannot be lasting, for the earth, to yield its fruits, requires the rain, and man, so he may estimate this life and the next at their true value, has need of tears."



Paint for Canning Plants

AS the effects of rust cost more than paint protection, well managed industrial plants are kept painted.

The best protective paint costs more per gallon. But the cost of labor is the same, whether good or poor paint is applied.

Therefore a longer-lasting paint saves in labor. In these days of high labor charges, this is a most important item.

Dixon's Silica-Graphite Paint has been proven the LONGEST SERVICE paint, for protection of metal or wood surfaces. We are pleased to reproduce the following testimonial letter from Greenabaum Brothers, Inc., of Seaford, Delaware:

"We have been using Dixon's Silica-Graphite Paint for eight years and find it the best paint for use on buildings, smokestacks, etc., both wood and iron. It has given us entire satisfaction wherever we used it."

The Executive Idea

THE ADVERTISING CLUB NEWS of New York says that most of us suspect that we are executives, and gifted that way. Some of us are, and few will agree as to what constitutes a good one. It then prints part of a speech quoted in the *Engineering Magazine* as follows:

"The trouble with you men is that you are executives, and not human beings. You are so swelled up by the title of general manager, or superintendent, or something of that kind that you get entirely out of touch with the common, every-day human being; and, worse than that, you get together in boards of directors and put across things as a body that every one of you would be ashamed to do as an individual. The real thing is not to fight labor; get out and find out what's wrong, and fight that!"

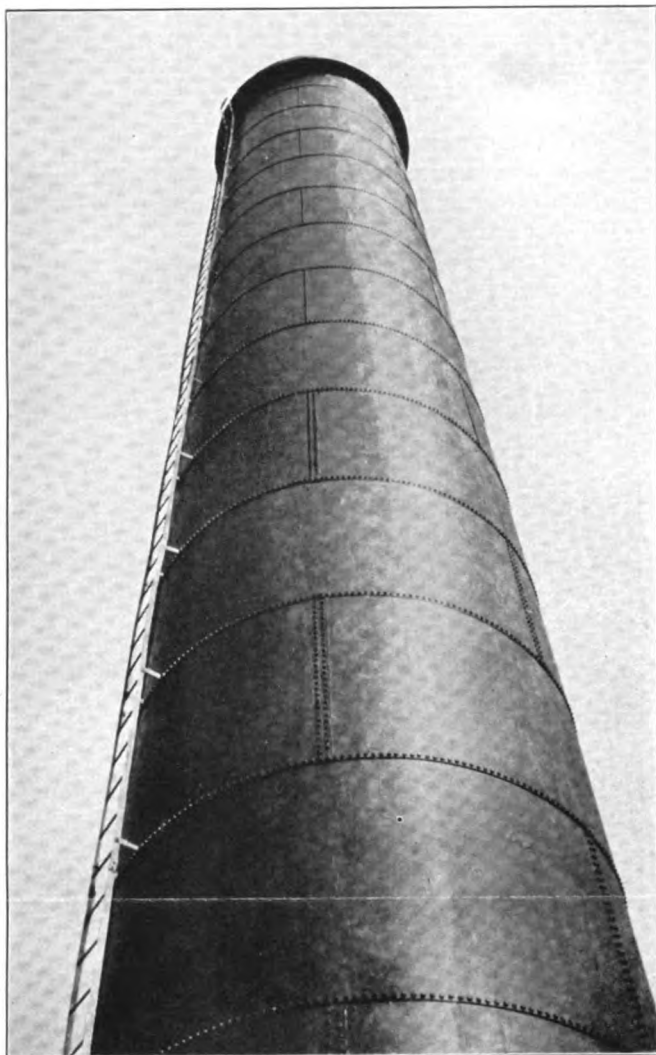
"Loyalty? Why, if you will throw off your executive frills and get back to being human beings yourselves, and meet your employees on the same level, you will find yourselves in the same fix that I'm in—the people in your plant will work for you and fight for you, and will make you rich in spite of yourselves."

"In eight years our sales have increased from \$500,000 to \$14,000,000 a year."

And adds that these words will show at least one John preaching the Gospel in the wilderness.

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"If we elect to go in evil ways, evil will destroy us. If we live a life of goodness, the good will preserve and protect us."



Standpipe, Kirkwood, Ga.

THE above standpipe was painted with Dixon's Silica-Graphite Paint on the interior and exterior over two years ago by Mr. J. Power, steeplejack, of Lancaster, Ohio. The Kirkwood Water Board informs us that the standpipe is now in good condition.

Some of the reasons given by water companies for using Dixon's Silica-Graphite Paint are:

- The longer service,
- The greater yearly economy,
- The neat and workmanlike appearance if properly applied,
- The guarantee that we give of making a *first quality* paint only,
- The splendid reputation won in over fifty years of use throughout the world.

Dixon's Silica-Graphite Paint carries an inert pigment. It is not affected by water, and is as harmless and sweet as charcoal; therefore, may be safely used for the inside as well as the outside of the standpipe.

It is well said that the difference in drivers is the difference of several years in the life of a horse, and it is well said that the difference in executives is the difference in the work and output of superintendents and workmen. Profanity and overbearing ways of men higher up make for small dividends.

Water

THOMAS DARLINGTON, C.E., M.D., in a paper read before the American Institute of Mining Engineers on "Illness in Industry," said: "Water is nature's great solvent. Taken with food it increases the utilization of food. It aids absorption of food and carries nutrient material through the medium of blood and the lymph to the tissues in the various parts of the body. Solution is one of the essential steps in digestion. There is widespread belief that to drink water with meals is injurious. On the contrary, one of the most common faults in eating is to neglect to take sufficient water with meals.

"We may determine the amount of water necessary to maintain the system in a normal, healthy condition by a study of the amount lost through the kidneys, the skin, the lungs, and the bowels. In general, the average total of these losses in an adult is five pints. This amount must be taken daily. Allowing a pint and a half of water to represent the average water content of the food eaten, the remainder, three and a half pints, about seven glasses, must be taken as drink in some other form. These figures vary greatly according to the weather and work. Hot weather and exercise increase the demand for water."

The Puzzle of the Hen

A WRITER in the New York *Sun* tells us that there are many things about hens a great many of us would like to know. He asks:

"Why are eggs cheap when my hens are laying and high when they are not laying?"

"Why are hens cheap when I sell them, and high and tough when I buy?"

After referring his questions to Mr. Hoover or to a graduate of some good reliable chicken college, he adds:

"Why is a hen, anyway? A rooster is a very simple-minded individual and after you have shaken hands with him two or three times he will speak to you anywhere he meets you, whether you are dressed up or not. But a hen—good night! You can't even approach her without getting a scolding, and when she does lay an egg even once a week she will hide the egg if she can, and then come out in the open and yell her head off just because she has laid something she knows you want and hopes you will never find."

SOME chap that fellow was who passed off the Westchester, N. Y., county seal for the Great Seal of Spain and a furrier's trade-mark for a heraldic family crest. The little fifteen-dollar-a-week telephone clerk was some on camouflage when he made the fur dealer's trade-mark serve as his family crest and became "the Marquis di Castillot," and used the Westchester county seal to establish his claim as the Special Representative of the King of Spain. The same young man landed in the Tombs, but there were many who swallowed the young man's imaginings, crest, seal, and all. Where—oh, where are they? Few have owned up, but among them was a bright and well known hotel man who, by his own admission, gave up five hundred dollars. "Lord! what fools these mortals be," and another one being born every minute.

"INVITATIONS to a free dinner have the same effect on many that carrion has on vultures."

An Export Association

"Which bids fair to be the most powerful agency in the industrial world"

MR. B. S. CUTLER, Chief of the United States Bureau of Foreign and Domestic Commerce, speaking of the American Manufacturers Export Association, said:

"You have at your disposal now an organization which bids fair to be the most powerful agency in the industrial world. In talking to your President, Mr. Geo. Ed. Smith, I referred to it as the leading export association of the Western Hemisphere. You have an instrument which can be made effective to the point of being a dictator of our commercial world.

"I believe that if you will follow along the lines that your President has laid down, in a very short length of time you will be surprised at the magnitude which your functions have assumed.

"If all of you will take a personal interest in the project which this Association fathers, we can have an entire rejuvenation of our commercial interests.

"Primarily export trade propaganda is for the sole purpose of disposing of the goods of our manufacturers, and I have no use for theoretical service or academic research and discussion.

"It is a fact that over-capacity is increasing at a very rapid rate. If you will turn your minds

for a moment to any one of the industries which, during these last six months since our entry in the war, have expanded abnormally, sometimes 100, 200, or 300 per cent., let me ask you to inquire of yourselves where the products of those plants are going after the war. We certainly cannot consume them in this country.

"We are going to be confronted by a grave condition and export trade will be to us not a sort of luxury and experiment, something that only large concerns can indulge in: it will be a prime necessity.

"We are going to have labor and capital tied up to such an extent that we are compelled to give them scope. This will necessitate a well-planned campaign not only from the national standpoint but from the individual standpoint as well, and the idea I am getting at is that we must acquire a scientific attitude toward our export trade."

It has been shown by Mr. Cutler and others that any goods that are manufactured in the United States, that can be generally used throughout the United States, can be used equally well in all parts of the world where similar conditions exist.

If the manufacturers of the United States do not plan for export business, that business will be taken over by foreign countries, and the United States will stand in the matter of export where it did many years ago. Even little Japan is progressing in a most rapid way in all of her export trade, and the larger nations that are to-day at war are carrying out a propaganda, at large expense, throughout our own Latin America, as well as other parts of the world.

The American Manufacturers Export Association is located at 160 Broadway, New York City; Mr. Stanley J. Quinn, Secretary.

Mental States—Worry

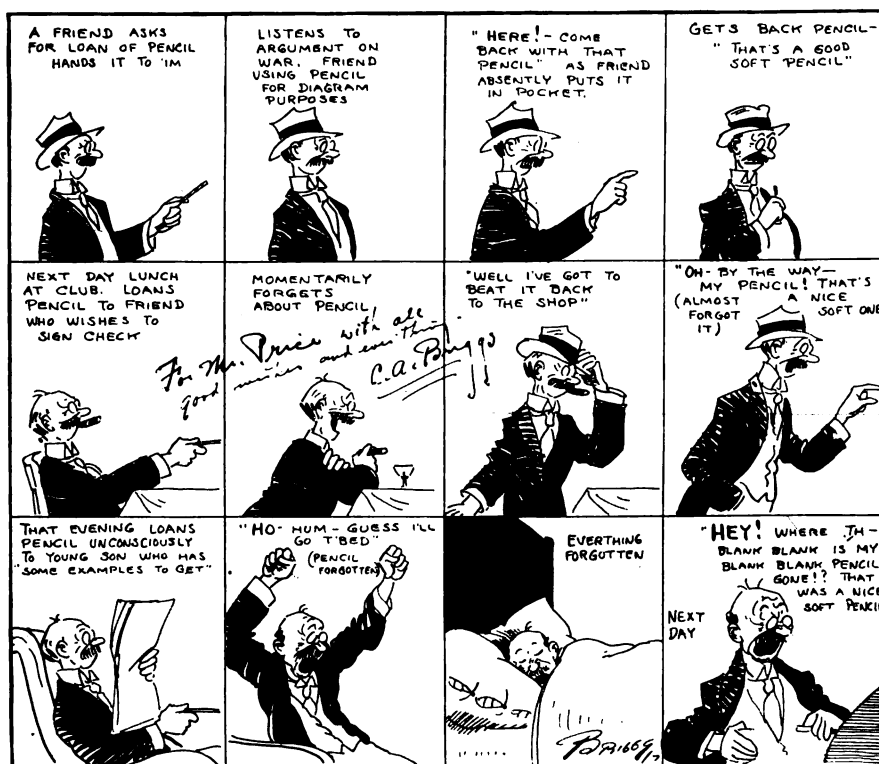
"IF you have inherited or acquired a habit of worry; if it has been your nightly practice before going to sleep to think of those things which have been subjects of worry during the day,

and you have fallen asleep in a disturbed and anxious frame of mind, — by so doing you have unconsciously forced the soul, or true self, into an atmosphere and conditions corresponding to those which you have consciously lived during your waking hours. You have hoped, in sleep, to lose all consciousness of those things which have been a burden and a sorrow to you amid the associations of life, and so find rest and surcease of sorrow. And in a

sense it is true that for a time you have found rest, in sweet unconsciousness. But, at the same time, your thinking has determined the plane of the soul's activities, and through the hours of sleep it abides amid the scenes and worries of your waking thoughts; therefore you keep the subjective mind, day and night, under a depressing and body-destroying suggestion, for, all night long, even as you sleep, the involuntary activities of the body are coördinated to produce inharmonious physical conditions. . . . This is not as it should be. You should sleep so soundly as not to dream or, rather, retain the impressions of subconscious mental action, and awake refreshed and invigorated, with a feeling of renewed and quickened life. It is wholly in your power to correct this abnormal condition, and to establish a habit of mind which will be a permanent suggestion for physical strength and vigor."—Van Doren.

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"MAN's wealth leaves him at death; his relatives and friends leave him at the grave, but his good deeds go with him to the throne and plead for him."





The Food Situation

(No. 2 of a Series)

FRANCE, Great Britain, Italy and Belgium must now import sixty per cent. of their breadstuffs instead of the forty per cent. they imported before the war.

America must supply the greater part of this need. We cannot send them corn because they have not enough mills to grind it. We cannot send them cornmeal because it spoils in shipping. The oats, rye, barley, etc., that we send will not support them unless mixed with wheat. **WE MUST SEND THEM MORE WHEAT,**

and to do this **WE MUST EAT LESS WHEAT BREAD.**

Have at least **ONE WHEATLESS DAY** each week and **ONE WHEATLESS MEAL** each day. By wheatless we mean, eat no wheat products. Use corn, oats, rye, barley, or mixed cereal breads as wheat-saving breads.

Order wheat bread from your baker at least 24 hours in advance so that he will not bake too much. Cut the loaf of bread on the table. Use all stale bread for toast or cooking. Eat less cake and pastry.

THE UNITED STATES FOOD ADMINISTRATION asks you to get behind our soldiers, sailors and associates by sending them now the most food possible in the least shipping space. Every man, woman and child in America can help by eating less wheat, beef, pork, fats and sugar, more of other plentiful foods which cannot be shipped, and by avoiding waste.

**EAT PLENTY, WISELY, WITHOUT WASTE
AND HELP WIN THE WAR**

Reprint from material furnished by the

UNITED STATES FOOD ADMINISTRATION

Paint for Railway Bridges

IT is not the policy of railroads to give letters of recommendation, but we have seen the following letter from the supervisor of bridges and buildings of one of the large railroads to his engineer of maintenance of way, which reads in part:

"The time has gone by when our railroad can afford to experiment with paint of unknown qualities. I hope we may be able, not only to paint — bridge with a paint of proven quality, but other bridges as well.

"Dixon's Silica-Graphite Paint is among the paints that have given

great satisfaction on bridge work; in fact, from past experience I would prefer it to any other paint I know of."

Dixon's Silica-Graphite Paint is used as standard construction and maintenance paint by many of the leading railroads of the United States, Central and South America, Hawaiian Islands, etc., and by Government railways of India. Some have made careful and exhaustive tests of it under trying conditions before finally adopting it as standard.

If you are interested, write our Paint Department for detailed information and records.

Durability of a Pencil Mark

THE New York *Evening Post* tells a story by Ernest Lawson, who says that in the early days of J. Alden Weir, the artist, he once went to the little hotel at Barbizon that was frequented by the painters of the school and was asked by the proprietor to contribute a picture to be added to the famous collection that already adorned the walls. Mr. Weir was so flattered by the request that he rushed right out there and then into the landscape, although it was raining, and proceeded to paint a picture, which, when finished, was duly added to the hotel collection.

Many years afterward, upon returning to the hotel, Mr. Weir had the curiosity to look up his picture. Somewhat to his surprise, he found that the picture, which had been painted upon a wet canvas, had almost entirely peeled off. Only a few little specks of paint were attached to the canvas, but the signature, which had been written with a lead pencil, was as clear and legible as ever.

Baby and Pencil

JUDGING from the looks of one of our books recently returned by a friend, our friend's baby has recently discovered that a lead pencil will make marks.—*Kansas City Star*.

Baby must have had a Dixon pencil in his hand, as a "peculiar characteristic" of the Dixon pencils is that they do what they are designed to do, namely, to write or mark.

A Cheerful Send-off

THE New York *Evening Post*, like many other papers, enjoys a little fun at the expense of New Jersey. The *Post* has a story to the intent that after 300 newly drafted men in a certain city in New Jersey had been called for physical examination, the postman brought to each of them an invitation to buy a cemetery lot. The invitation read as follows:

"Which is the better time to consider a matter of this character? Now, when there is ample time for calm, deliberate selection, or later, perhaps, when there is a necessity? Experience has proved the former the better course; there is a satisfaction in owning an unused plot and in knowing you have relieved others of a responsibility."

"NEVER listen to a man that talks for a living, whether auctioneer or politician."

Bouquets

We're waiting for yours



BLACKWELL LUMBER COMPANY

Cœur d'Alene, Idaho,
February 8, 1918.

Gentlemen:

Please send me booklet No. 96-1B and booklet No. 96-C.

We are using your Boiler Graphite, which is a great success. It keeps our boilers free from scale.

Yours truly,

(Signed) L. E. HAYBARKER,
Chief Engineer.

"REPLYING to your letter of December 29th, on file, relative to sample of Dixon's Graphite Air Brake and Triple Valve Grease that you sent me under date of October 29th.

"Wish to advise I used this grease in the brake valve for 34 days on an 80-mile division; 160 miles constitutes a day. At the end of the run, after making 34 days, this brake valve handled just as well as in the beginning when I first put the grease in it.

"This valve was taken down by an expert air man, but graphite was not cleaned off the valve, and it has been running in constant service on a heavy passenger run with brake pipe pressure of 110 pounds, reservoir pressure 145 pounds, handling an average of 11 cars each way through 11 tunnels, which is very hard on air pumps and air that goes through brake valves; it has been running 64 days without a speck of grease, and before this grease was applied the valve had to be cleaned once or twice each week.

"Would be pleased to receive a sample of your graphite to use, as I have been having a great deal of trouble on account of dry valves; all the engines in passenger service on this division are super-heaters and I am particularly anxious to try this graphite."

◆ ◆ ◆

"LOOK upon the bright side of all things. Believe that the very best offering that you can make to God is to enjoy to the full what He sends of good, and bear what He allows of evil, like a child who believes in all its father's dealings with it, whether it understands them or not."—Emerson.

"If you don't make a success you will make a successor."

GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"WE are in receipt of your circular letter in regard to ELDORADO drawing pencils. Would say we used the samples we received and found them very satisfactory. We do not use very many drawing pencils, but intend to use the ELDORADO when we do."

"IN re the sample ELDORADO pencils you kindly sent me some time ago, I wish to say that I have found them absolutely satisfactory. Possibly I have never before used any quite as good, but certainly have never used any better."

"IN answer to your letter referring to sample pencils you left with me for trial, will say they have proven satisfactory. I not only find the lead free and smooth, but also the wood used is very good and I shall use them hereafter."

"IN reply to your inquiry of recent date regarding the sample of lead pencils you sent me for trial, I am glad to say that I have tried them and found them most satisfactory."

"I FOUND your pencils entirely satisfactory—equal or better than the foreign make."

"WE wish to thank you for the samples of ELDORADO drawing pencils mailed us some time ago. These pencils have proven very satisfactory for our work and we have specified same on orders during the past thirty days."

"REFERRING to your letter, beg to advise that I am much pleased with your ELDORADO pencils. I am glad to know that such pencils are being made in America."

"I HAVE found your ELDORADO a most excellent pencil."

"I DON'T see how pencils could be any better than your ELDORADOS. Am reasonably stocked at present and therefore not ready to order any. Many thanks for samples."

"YOUR sample of 6B ELDORADO pencil was satisfactory in every way. Your nearest competitor has a lead that is too thick or large, in my opinion, whereas your own make is about correct."

"THE four sample lead pencils reached me in answer to my request for them and will state that I have never used a better. HB cannot be beaten for heavy smooth lines and 2H is even better for my line of work. 7H is a little hard for me, but in some work I believe would be in first place. Your No. 352 White is surely a dandy and fills a long-felt want in being able to hold a point a long time and not crumbling away on drawings. Altogether they are fine."

"I FOUND the pencils most satisfactory and will be pleased to recommend them to my classes."

"THE samples sent us of your ELDORADO pencils were received and are in every way satisfactory. We expect to make use of them in our local purchases."

"REPLYING to yours of December 28, would advise that the samples of the ELDORADO pencil which you sent us were tried by us and found to be entirely satisfactory."

"WE are in receipt of your sample pencils which you were kind enough to send us. Beg to advise that we have been using your pencils for some time past in our drafting room and find them in every way up to the claims made for them by you."

"IN reply to your letter with reference to pencils, we would say that we have for some time used Dixon's ELDORADO HB pencils and find them very satisfactory."

"WE are pleased to say the samples of ELDORADO pencil proved entirely satisfactory and that our drafting department is using your pencils right along."

"WISH to advise you that our draftsmen have tried your ELDORADO drawing pencils and report they are very satisfactory."



What Will Protect **YOU** *If These* Are Defeated?

Our army and navy are the protectors and the only protectors of *your* home—*your* family—*your* income—*your* property.

What will become of you and yours if these protectors are weakened and rendered insufficient to their task?

They will not be defeated by the enemy.

The only way they can be defeated or weakened is through *your* failure to support them with ships, food, weapons, ammunitions, clothing and supplies.

Your life, your business, the future of your family, may depend upon how much real effort and *sacrifice* you make to invest in

Liberty Bonds

In utilizing this advertisement to talk Liberty Bonds rather than our own business, we do so in the firm belief that there will be little of either pleasure or profit in our business or any American business unless Liberty wins this war.

JOSEPH DIXON CRUCIBLE CO.
Jersey City, N. J., U. S. A.

LU. REAVIS

THE DE VINNE PRESS
NEW YORK

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no. 5

Geol
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Graphite

VOL. XX

MAY, 1918

No. 5



Clear Creek from Windy Point, Mt. Lookout

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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National Paper and Type Company, 31-35 Burling Slip, N. Y.

With Branch Houses in Mexico, Cuba, Peru, Argentine, Uruguay, Venezuela, Porto Rico and Colombia

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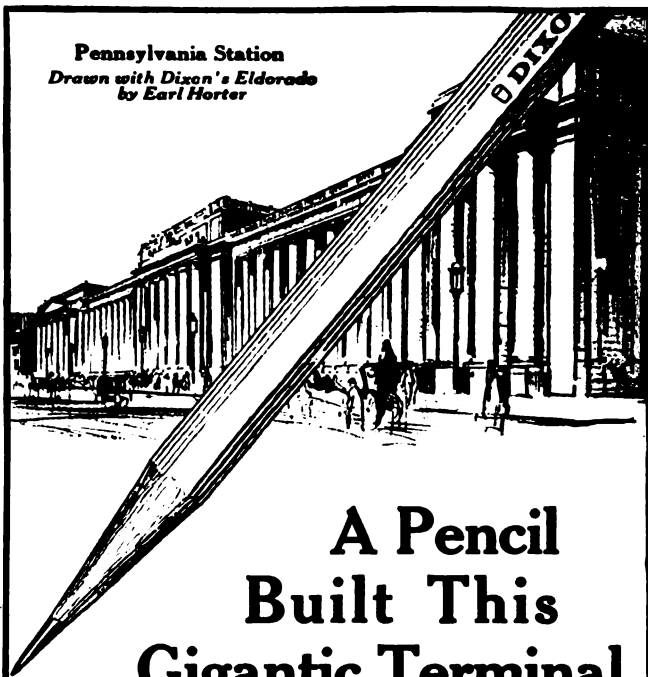
FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

A. R. MacDougall & Co., Ltd., 468 King St., West, Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.

Pennsylvania Station
Drawn with Dixon's Eldorado
by Earl Horter



A Pencil Built This Gigantic Terminal

The finest plans, the most delicate drawings, are needed to build a magnificent structure like the Pennsylvania Terminal.

First of all, the *pencil* must be right. A crumbly, gritty or unresponsive lead makes good work impossible. Architects, engineers and draftsmen everywhere are using

**DIXON'S
ELDORADO**
"the master drawing pencil"

because it is always the same—the best. The leads are smooth and strong, evenly graded and true to specifications. Each of the seventeen degrees is the best for its purpose that can be made.

Write us on your letter head for full-length samples of your favorite degrees.

JOSEPH DIXON CRUCIBLE COMPANY
Dept. 190-J, Jersey City, N. J.

DIXON'S BEST WHITE No 352
writes white on blueprints



THE Treatment of Boiler Scale with Kerosene

Methods to be Used and Precautions Required

THERE appears in the March 1st issue of *Power Plant Engineering* an article,

"Treating Boiler Scale with Kerosene," by Lionel Linnell, and taken from the *Electrical Review*, and from which we quote several paragraphs.

Mr. Linnell states: "Kerosene is different from graphite in boiler scale treatment in that the latter is used with the boiler in service and the scale wet, whereas kerosene is usually used after the boiler is taken out of service and after the scale is dried. The best results are obtained with kerosene with dry scale, for it then works in between the scale and the boiler surfaces, breaking up the former and separating them from the latter. It is thus seen that graphite is really a method of treating boiler surfaces and scale while the boiler is in service, kerosene a method after the boiler has been taken out of service. There are those who advocate feeding kerosene drop by drop in with the feed water, in the same way that graphite is used for scale treatment. The exponents of this practice claim the kerosene changes the form of the scale, making it more granular in form, and therefore more easily removed from the boiler. Kerosene has, however, no chemical action upon boiler scale.

Precautions in Using Kerosene

"After a boiler has been shut down and the water drained off while the surfaces are still a little warm so as to dry the scale, kerosene may be sprayed in so as to cover every part of the boiler in sufficient quantity to enable it to soak in behind wherever scale is lodged. The boiler should then be allowed to stand while the kerosene works in between the interstices and cracks and under the bottom of the scale.

"As pointed out when discussing the use of graphite for scale treatment, a boiler that has been treated with kerosene should be opened much earlier than one not so treated, because there is always a certain amount of scale that comes down after the boiler starts steaming again, being forced down by the vibration, movement of the metal surface and the ebullition of the water, presumably. If not removed, this precipitated scale will cause damage.

"Kerosene vapor should never be sprayed into a hot boiler, for when mixed with the proper proportion of air it forms

an explosive mixture. Every precaution should be exercised to prevent its ignition, otherwise

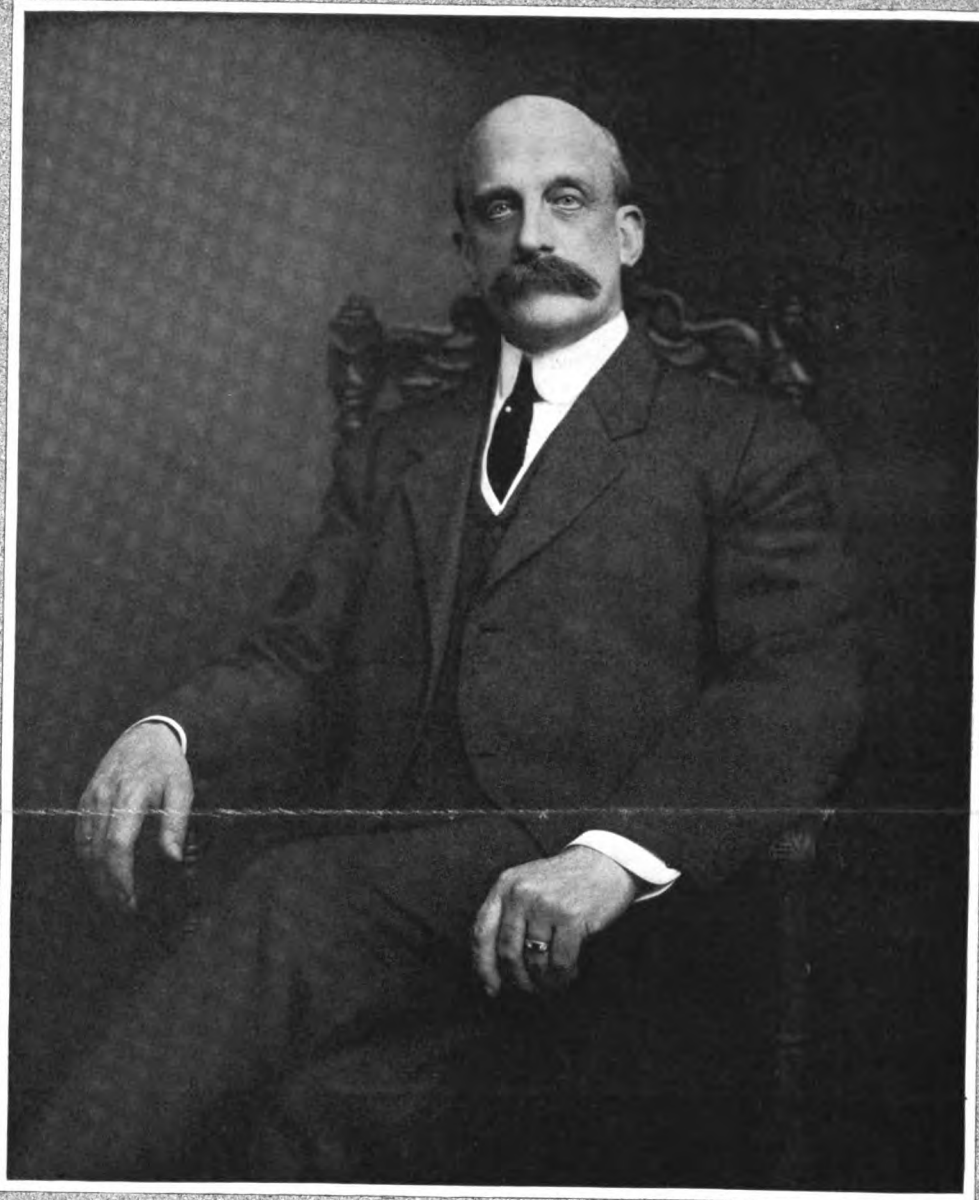
damage to persons and property is liable to follow. No naked flame should be taken in or around a boiler that is being or has been treated with kerosene until the inside has been thoroughly washed out with water spray and ample time has elapsed for effective ventilation. Only an electric lamp, well protected against breakage, should be used during the kerosene treatment. There is always the possibility of persons entering the boiler being overcome with kerosene vapor unless the boiler is amply ventilated before they enter. Moreover, some of the vapor may remain even after the unit has been in service, hence it is always a wise measure to ventilate it well when next taken out of service.

"At this time every means is desirable for economizing coal by maintaining the inside and outside boiler heating surfaces efficient for heat transmission, and kerosene may be used for doing this. The writer believes it should be used only as a last resort and after graphite has failed in its purpose, which it is unlikely to do. In any case, with changing labor conditions, with new men on the job and possibly working for long hours, the use of kerosene should be employed only under capable supervision."

The action of Dixon's Pioneer Boiler Graphite (flake) is the same as kerosene; that is, it is purely mechanical, particles of graphite work their way through the minute fissures in the scale and gradually penetrate between the scale and the metal. The scale thus loosened is removed with regular cleaning tools or may be rapped off.

Experience shows that flake graphite will be distributed more evenly on the surfaces of the shell and tubes and become more permanently attached to the metal than any other kind. This means that the effect of flake graphite persists longer after each application, and as a result less of it is required.

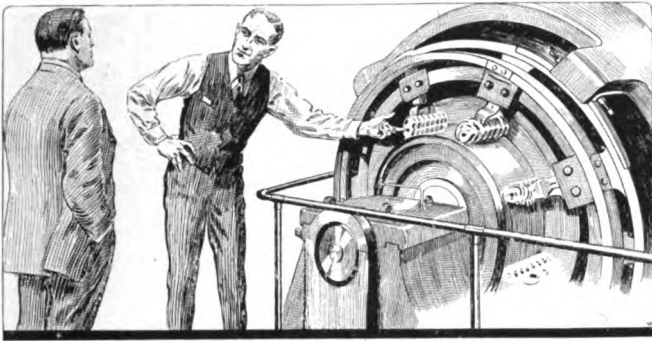
Dixon's Pioneer Boiler Graphite makes boiler cleaning positive and easy and is harmless to both boilers and workers. It may be fed into the system in an almost automatic manner. Those interested should write for Booklet No. 190-T telling more about Dixon's Pioneer Boiler Graphite and method of using.



GEORGE T. SMITH

*President of
The Joseph Dixon Crucible Co.*

Recently elected Treasurer of the United States Shipping Board
Emergency Fleet Corporation



"Look at These Commutators—There's Another Saving"

"THERE is absolutely no sparking or wear," said the chief engineer of a big power plant to the general manager.

"See the dull, glossy polish? Dixon's Graphite Brushes are responsible for this. They never cut or scratch the commutator. There is no gumming, either. Graphite being a natural lubricant, the commutator is automatically lubricated."

"Don't these brushes wear down quicker than carbon brushes, though?" the general manager interrupted.

"Not at all," replied the chief. "Because it isn't necessary to have much pressure on them. I've found that a pressure of about three pounds per brush gives the best results for our machines."

"How do you know what pressure you have?" inquired the general manager.

"I weigh it with a spring balance. Just hook the balance to the brush holder," the chief explained, "and lift until the brush clears the commutator."

This is a chapter from "Adventures in Power Plant Economy," as now running in *Power*. The chief found out about the advantages and economy of graphite brushes from Booklet No. 190-M. A copy and a sample brush will be mailed to any engineer on request.

Lubrication of Gears and Heavy Exposed Machinery

IT is usually a difficult matter to lubricate heavy machinery, such as dredges, steam shovels and derricks, exposed to the elements.

With Dixon's Waterproof Grease the problem is solved. It cannot, because of its great adhesiveness and tenacity, be easily thrown or washed off of gears, chains or wire ropes.

Its use on wire ropes, chains, metal or wooden gears, cranes, dredges, steam shovels and other machinery of a like nature is highly commended by these properties of tenacity and adhesiveness.

It not only lubricates but is an excellent rust preventive.

Dixon's Waterproof Graphite Grease is one of many special graphited lubricants prepared by us. The lubricant is composed of high grade mineral stock to which has been added the proper amount of Dixon's Selected Flake Graphite. The graphite is the vital element, for it imparts to wearing surfaces a remarkable smoothness that relieves the grease of a very considerable portion of its task of keeping comparatively rough surfaces apart. The flake graphite

increases both the efficiency and endurance of the mixture, thus enabling the grease to do heavier duty than would otherwise be possible.

Waterproof Grease will not stick to wet surfaces. It is, therefore, important that surfaces be dry when the first application is made.

On account of its dense, sticky nature, Waterproof Grease should not be used in grease cups.

Those in need of a lubricant of this nature should write for Booklet No. 190-W that tells more about its uses.



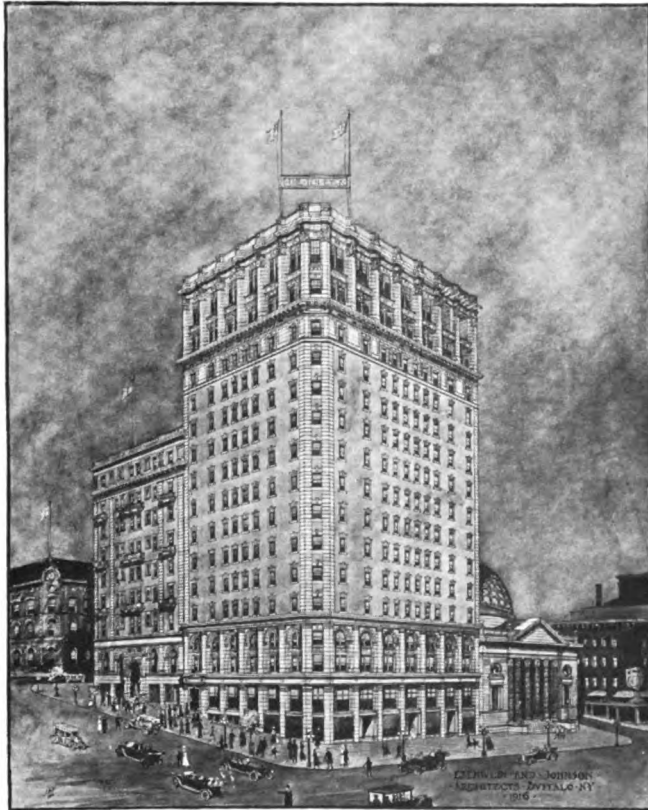
Dixon Booth at Rothschild & Co.'s Auto Show

THE above illustration shows the Dixon booth at the Automobile Show held by Rothschild & Co. Department Store, Chicago, Ill.

During the week of the show over 100,000 people visited the Dixon booth and heard the story of graphite lubrication and learned why Dixon's Graphite Automobile Lubricants are best for cars. By means of open transmissions and differentials visitors were able to see just how Dixon's cover all moving parts.

Our dealers in Chicago will all without doubt receive direct benefits from this show, as car owners will be better acquainted with Dixon's Graphite Automobile Lubricants than they were before.

We would suggest that dealers make window displays at this time of Dixon's Graphite Automobile Lubricants, as our newspaper and motor paper advertising campaign is now commencing and it will interest car owners. Progressive dealers will tie up with our campaign by displaying these lubricants in their windows. Good use can be made of the racing driver photos, which we are glad to send to dealers that request them. We have other material for windows that will also be sent. Please address Department 190-G.



Ten Eyck Hotel, Albany, N. Y.

THIS fine new hotel is an attractive landmark in the Capital City of the Empire State. It was designed by the well-known architects, Esenwein & Johnson, of Buffalo.

When you go to Albany visit "mine host—the Ten Eyck," and recall that the steel work of this notable fire-proof and rust-proof structure is protected with Dixon's Silica-Graphite Paint, a favorite paint with architects and engineers because it is a real protective paint and has lived up to its "FIRST QUALITY ONLY" record of over fifty years.

Dixon's Silica-Graphite Paint is an American product throughout and is used on buildings and other structures the world over, where "standard paint efficiency" and Dixon's are synonymous in phrase and practice.

Consult your architect and be a user of Dixon's.

Despite high costs of labor, material and transportation, all the ingredients of Dixon's Silica-Graphite Paint are maintained, as in the past fifty years, at **FIRST QUALITY ONLY**.

Therefore Dixon's is worth more "per gallon" because each gallon lasts "more years" and saves finally in total cost of labor and materials used.

Dixon's is the real "monumental paint" because it "challenges time."

Improvement in Our Gun Steel

ENGINEERS of the United States Navy have beaten Germany at her own game by producing gun steel of unparalleled excellence, Hudson Maxim, inventor of high explosives, told the American Institute of Mining Engineers at their meeting in New York City on February 19. This new metal, when shells are fired, resists erosion to a degree which doubles a gun's value.

"I am not allowed to go very far into this matter because of my connection with the work of the Naval Consulting Board," Mr. Maxim said. "But I can say that at the outset we feared the German big guns were lined with a metal superior to ours. We have examined several of their largest which have been captured and have found that the American field guns are not nearly so apt to wear out as the German pieces. The Navy Department has been able to fire 250 shots from a 14-inch gun and still fire accurately. Our guns can now fire twice as much ammunition as can be carried on a ship without serious danger of erosion. When war began we believed Germany far ahead of us in making steel for guns which would prevent erosion. Now we know that if Germany wins it will be in spite of the fact that we have better steel. In addition, the duPont Powder Company has developed a powder which burns with a minimum of erosion in the gun."

Mr. Maxim read a paper by Henry M. Howe, attached to the United States Army Ordnance Department, stating that his microscopic studies of gun bores convinced him that erosion might be retarded by cooler powders and *graphite lubrication*. In a discussion of this paper Institute members stated that the inner lining of a 14-inch gun costing \$60,000 wears away after 170 shots. It takes five months in a factory to reline the barrel at a cost of \$18,000. —*Army and Navy Journal*.

The Price-Cutter

CUTTHROATS! The price-cutter in business is the cutthroat who drives the small concern to the wall. He is, therefore, as obnoxious as the merchant who raises the price and increases the cost of living. The price-cutter hides behind a misnomer. He may cut the price on some article whose popularity has been secured by extensive advertising, but he invariably increases his profits on other lines of goods that he may foist upon the unsuspecting customer. Curiously enough, the Sherman Law did not have for its sole purpose a reduction in the cost of living, for in two instances, at least, action was brought by the Government against corporations on the ground that they had violated the Sherman Law by reducing the prices of their commodities to a level that endangered competition. The Ward Baking Company was accused, for instance, of giving away bread to induce custom, and the Corn Products Refining Company was accused of selling its corn syrup at a lower price than its competitors could offer with a profit, though its competitors were constantly increasing their output while its percentage of the entire trade was decreasing. The Sherman Law was intended properly to restrain great corporations from devouring their small competitors, but the Department of Justice, in its eagerness to curry public favor, has gone far beyond the original purpose of the statute. One of its farthest departures is in its action against Colgate & Company, brought on the preposterous ground that it refused to sell its products to dealers who had failed to maintain the advertised retail sales prices. Every workman has a right to work or refuse to work for any employer. Every customer has a right to trade or not to trade at any store. He can make his choice of articles he desires to purchase. The right that the buyer enjoys should by every rule of reason and equity belong also to the seller. It seems preposterous that the question of the seller's right should be raised in these strenuous times by an overburdened Department of Justice. But it has been raised, and we are glad to know that the issue is to be met in open court, as it ought to be. —*Leslie's Weekly*.



**Penstock, Malone Light & Power Company,
Malone, N. Y.**

THE illustration above will give one a fair idea of the length and size of the penstock of the Malone Light & Power Company, on which Dixon's Silica-Graphite Paint has given a service of three years. This penstock is, as is readily seen, exposed to ice, snow, rain, hail, heat and cold.

It was a serious question how properly to protect this penstock from corrosion, but after looking up the records of Dixon's Silica-Graphite Paint, and after considering the fact that this paint had been in the market for over fifty years and had been made in *first quality* only, it was decided to adopt it as a protective coating.

It was decided that true economy in a paint can be found only in the years of service. The labor costs more than the highest priced paint, and therefore the true cost of paint is determined by adding the cost of the paint and the cost of labor and dividing by the years of service, and here is where Dixon's Silica-Graphite Paint invariably wins.

Japanese Language in Australia

AT the Eighth Annual Convention of the American Manufacturers' Export Association, held in New York City in October last, Hon. H. C. Hoyle, former Minister of Railways, New South Wales, Australia, spoke on "Trade Expansion between Australia and the United States." He most strongly advocated that manufacturers of the United States should make direct connections with Australian dealers, and not depend upon London connections to market their goods in Australia, as the Australians preferred to deal direct.

Americans now buy Australian wool through London connections instead of buying it direct. In years gone by, Mr. Hoyle said, the English had the entire trade in Australia. American vessels, however, were frequent. In time the American vessels practically disappeared, the English vessels began to thin, while the German merchant fleet increased largely. The time came when almost everything bought in the shops bore the mark "Made in Germany." Since the war things have largely changed, and to-day many things bought in the shops are stamped "Made in Japan."

Mr. Hoyle went on to say that in years to come no goods sold in Australia would be found to bear the mark "Made in Germany," and now was the opportunity of manufacturers in the United States to get the Australian trade.

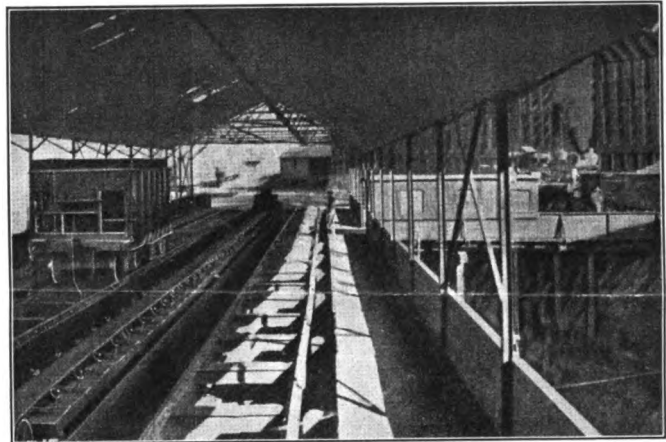
We are now informed through the United States Commerce Reports that Consul-General J. I. Brittain, Sydney, writing under date of October 23d, says:

"Instruction in the Japanese language in the university and high schools of New South Wales is now on the same basis as instruction in German and French. High-school pupils who desire to take a course in Japanese, and later pursue the study at the university with a view to taking a degree, must give four years in a high school and three years at the university to the subject. As many high-school pupils as desire may take Japanese.

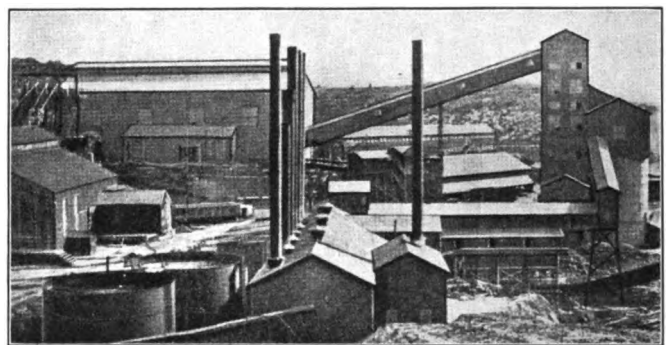
"There is also a large class of about 75, drawn from business circles and other walks in life, which is now studying Japanese at the university, and the language is being taught at the military school.

"The increased trade between Japan and Australia has caused the average business man to realize the importance of these courses."

Old Dominion Smelting & Refining Co., Globe, Arizona, Protected by Dixon's Silica-Graphite Paint



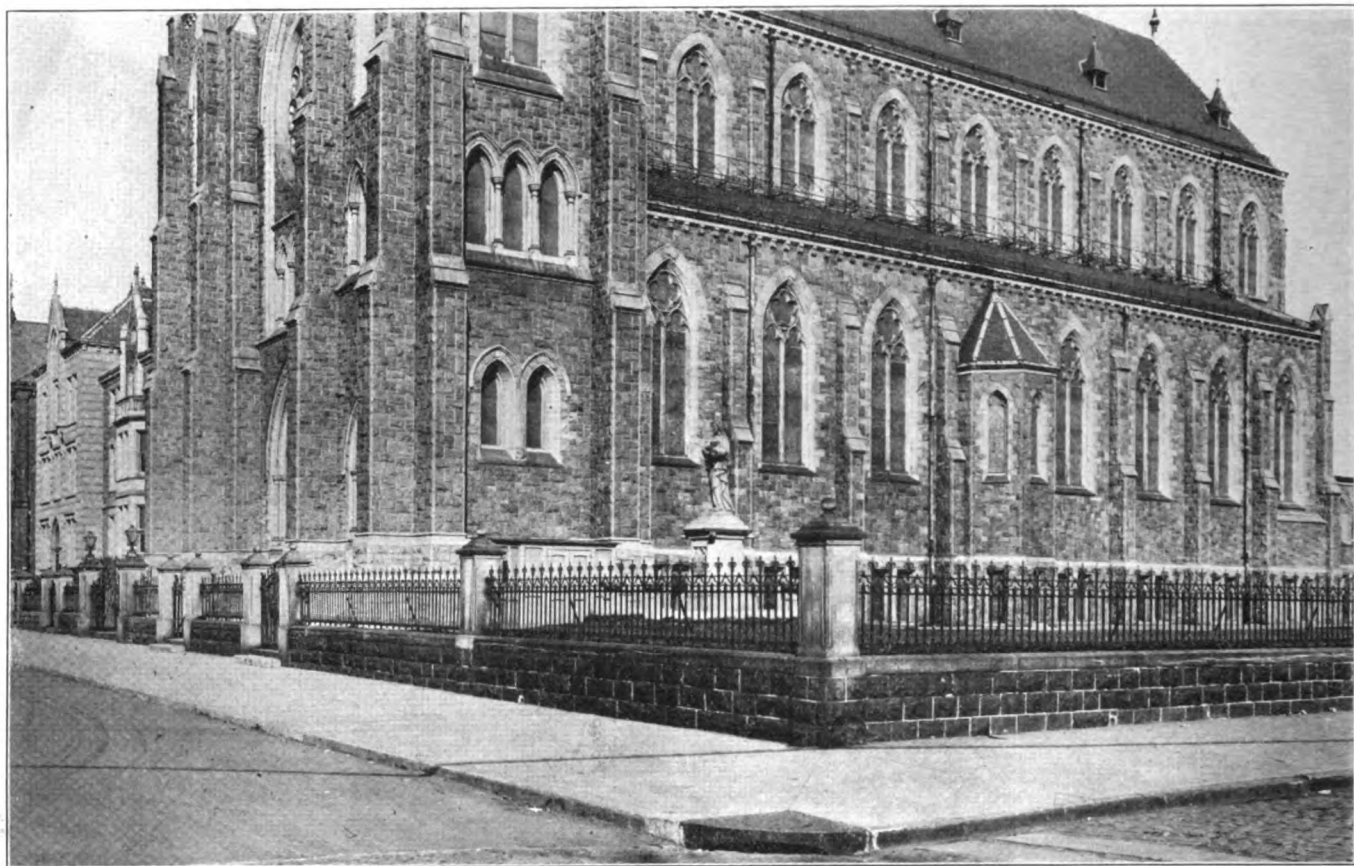
Stock Bins Showing Track System



Crushing and Sampling Plants and Ore-Storage Bins

THE above structures are protected with Dixon's Silica-Graphite Paint. This is but one of many smelting and refining companies whose metal work is painted with Dixon's Paint, and no better illustration could be given of the protective service that it renders.

The Dixon Company believes in living up to its record of over fifty years of manufacturing its paint in **FIRST QUALITY** only. We are proud to retain customers like the above.



Iron Fence, St. Patrick's Church, 2d and Court Streets, Elizabethport, N. J.

Fifteen Years' Paint Service

THE iron fence around the lawn of this handsome Gothic stone church was painted in 1902 with Dixon's Silica-Graphite Paint, and in July, 1917, was reported to be in good condition—a service of fifteen years.

The proper protection of iron fences is a matter of considerable difficulty, especially near tide water and in industrial and railroad centers, where there is smoke, acid fumes, etc., in the air and moisture.

Dixon's Silica-Graphite Paint could not have a better recommendation than the above illustration affords, and we need say little more except:

FIRST—Be a user of Dixon's Silica-Graphite Paint.

SECOND—Apply two or three coats, strictly according to directions.

THIRD—Do not paint to-morrow what you should paint to-day, because rust costs more than paint.

The Human Element

ACCORDING to Mr. J. F. Kent in *The Foundry*, whether his skin is white, black, red or yellow, man is a social animal. You can work a mule from one year's end to another, and as long as you keep his stomach full he is satisfied. A man is different. On Saturday night he looks for something besides a pay envelope. You can't treat him as an animal or a machine and successfully get away with it for any length of time. He is a man and you are a man, and in that kinship lies the secret of good or bad relations.

Recognition of that kinship goes by many names, the most popular probably being "Welfare Work." No matter what you call it, however, it is the same thing; it exists in any business where men work for other men, and in any state or country. A good many years ago men with experience said that negro labor was not dependable, and the only way to handle a negro was to take a pick handle or some similar persuasive implement and knock him on the head about twice a week. To-day three-fourths of the laborers in the shops in the South are negroes. They are as dependable as any ordinary class of labor, and in making them so the pick-handle method never has been used.

Habits of cleanliness have been encouraged. In the plant of the American Cast Iron Pipe Company, Birmingham, Ala., they constructed a brick bath-house large enough to accommodate all of the employees. In the twelve months from October 1, 1915, to September 30, 1916, white employees took 25,753 baths, and negro employees 166,477. When the men go to and from work they are dressed in good clothes, with white collars and polished shoes. Few would imagine that they worked in a pipe foundry. The indirect value of these baths upon the negroes is beyond estimation. The baths are a means of cleanliness and sanitation.

The American Cast Iron Pipe Company also have a medical department. It started small, but to-day is thoroughly equipped with operating room, consultation room for both races, dental parlors for both races, and a drug dispensary. This establishment is conducted by two doctors, one a high-class surgeon and general practitioner, and the other a physician; a white trained nurse; two negro trained nurses; a dentist, and a consulting board composed of several of the leading specialists of Birmingham.

"Paper Bullets"

Extracts from an Address made by James Carson, of the National Paper & Supply Co., before the Export Division of the Advertising Club of New York

MR. JAMES CARSON was formerly a representative of the Associated Press in Latin America. He speaks Spanish fluently, and is thoroughly conversant with commercial matters in Mexico and South America. We can give here only a few extracts from his very clear and most interesting address.

He said that several new things have come up out of the Great War that dent the dullest imagination. But few have comprehended the term "propaganda."

German propaganda is as much one of the weapons involved in the great struggle now going on, as is the submarine, the aeroplane or the tank. It is less deadly in its direct attack, but it is insidious and ubiquitous.

German propaganda has two very definite purposes in view—one is the winning over of Latin American governments to the support of the cause of the Central Empires, and the other is so to discredit Americans as to render their commercial position precarious for business after peace is signed.

German propaganda has reached every corner of the earth, but has been specially trained toward Spain, Russia and Latin America.

How much money Germany has spent in Latin America is not ascertainable, but it is believed that the sum will exceed the figures shown for Russia, and it has been well authenticated that she spent \$3,000,000 per month over a long period in Russia.

Omitting the very interesting statements made by Mr. Carson as to Germany's propaganda work in Spain, which she considers the mother of Latin America, we will confine our extracts to Latin America.

At the time of the sinking of the "Lusitania," Mr. Carson was in the City of Mexico. It was there that he noted the first agents of the great propaganda game which Germany has since been playing in Mexico. Some of the German propaganda work was dramatic; but most of it has been subtle and unclean.

The work of the German propagandist in Mexico is two-fold. He is endeavoring to foment an armed clash between that country and the United States; and he is trying to sow seeds of hate which will endanger America's position of commercial supremacy throughout Latin America.

Late in 1916, Mr. Carson went to South America, and in Brazil he found the German propagandists very busy. Their work was shown in articles in one of the leading papers of Brazil and one of the most important of South America. The article spoke of the imperialistic designs of the "Colossus of the North," as the propagandists persistently call our country.

Concerning American business men in Latin America, Mr. Carson has met them in Mexico City, Rio de Janeiro, Montevideo, Buenos Aires, Santiago, Valparaiso,

Lima, and in other Latin American capitals, and business men, as Mr. Carson has met them, are men the United States may be proud of. Mr. Carson, himself, is proud to be an American. We do not know how much we owe to these Ambassadors of Commerce.

Our domestic prosperity of the future will depend upon our overseas trade. The end of the war will perhaps find us with a great merchant marine, and an immensely

Ain't It Discouragin'?—Hopkins



increased output of manufactured articles, but with only a thin line of soldiers on the outposts to carry our flag in the commercial battles that are surely coming.

The manufacturers and merchants must be alive themselves to the great importance of the propaganda work. There must be missionary work; there must be newspaper work; there must be "Paper Bullets" of all kinds.

We may have the goods, we may have the men, and we may have the ships; but without this propaganda work, our forces cannot be properly directed and coördinated when we strive to undo the harm already accomplished by the Germans.

The truth should be the principal weapon in this campaign. No attempt should be made to argue or exhort or censure, but all activities should be confined to the straightforward representation of the aims, purposes and ideals of the American Business Man.

♦ ♦ ♦
"TRUTH never apologizes, never offers an excuse, never begs your pardon for anything, never wrongs another."

Repairing Furnace Linings

FREQUENTLY the furnace lining fails at a time when it is impossible to shut the furnace down for extensive repairs. This is particularly true at this time when everyone is endeavoring to do all he can in the way of increasing production.

Dixon's Furnace Cement (C. C. & G.) will prove an invaluable aid in keeping furnaces on the job all the time. It is a crucible clay and graphite mixture of a most refractory nature and successfully withstands great heat.

It will prevent delay and save expensive repairs by stopping the rapid destruction through excessive heat of furnace linings after they have become cracked. It is also used for patching cracked or worn fire boxes around boilers.

It is only necessary to mix Dixon's Furnace Cement into a paste with water, and if especially rapid drying is desired, add $\frac{1}{10}$ part of molasses or silicate of soda to the water. To obtain the best results this mixture should soak a week or two, and the longer it is soaked before use the better results will be. It is a good plan to keep a quantity in soak at all times and to add driers when material is needed.

Those interested should write to Department 190-V for prices and more information.

Lines to a Grouch

I WONDER what makes you so blue?

There's nothing ever bright with you;
I guess your liver's out of whack,
A spring is broken in your back;
Or, maybe, after all is said,
It's just a wheel loose in your head.
But, after all, just cheer up some,
Because the worst is yet to come!

—Dalton Citizen.

Dixon

GEOGRAPHICALLY speaking, there is a Dixon in Arkansas, another in California, still another in Illinois, and a Dixon also in Iowa, Kentucky, Mississippi, Missouri, Montana, Nebraska, New Mexico, North Carolina, Ohio, South Dakota, Texas and Wyoming.

As Joseph Dixon was the founder of the Joseph Dixon Crucible Company, and as he was a widely known and very eminent man, we are going to claim that all of the towns in the States mentioned above were named in honor of Joseph Dixon and his graphite products.



"A Great Net of Mercy Drawn Through
an Ocean of Unspeakable Pain"

What Your Red Cross Dollars Do

An accounting of Expenditures of the First Red Cross War Fund

Every one of the twenty million and more Red Cross members is entitled to this Statement. Your local Red Cross Chapter can give you further details.

First War Fund Appropriations up to March 1, 1918

Foreign Relief:		United States Relief:	
Relief in France	\$30,936,103.04	U. S. Army Base Hospitals..	54,000.00
Relief in Belgium	2,086,131.00	U. S. Navy Base Hospitals..	32,000.00
Relief in Russia	1,243,845.07	U. S. Medical and Hospital	
Relief in Roumania	2,676,368.76	Work	531,000.00
Relief in Italy	3,588,826.00	U. S. Sanitary Service	403,000.00
Relief in Serbia	875,180.76	U. S. Camp Service	6,451,150.86
Relief in Great Britain	1,885,750.75	U. S. Miscellaneous	1,118,748.41
Relief in other Foreign		Total U. S. Relief	\$ 8,589,899.27
Countries	3,576,300.00	Working capital for purchase	
Relief for Prisoners, etc. ..	343,304.00	of supplies for resale to	
Equipment and expenses in		Chapters or for shipment	
U. S. of Personnel for Eu-		abroad	15,000,000.00
rope	113,800.00	Working cash advances for	
Total Foreign Relief ..	\$47,325,609.38	France and United States ..	4,286,000.00
Restricted as to use by		Total of War Fund Appro-	
Donor	2,520,409.57	priations	\$77,721,918.22

At the close of the first year of the War the Red Cross goes to the public for the raising of the Second War Fund with a record of appropriations which warrants continued contributions to this great relief work. As an influential citizen of your community, join with your local Red Cross Chapter to make this campaign successful. Your Red Cross is the Army behind the Army. Give till your heart says stop.

Second Red Cross War Fund Week May 20-27

A War-Time Toast

HERE'S to the blue of the wind-swept North, when they meet on the fields of France:

May the spirit of Grant be over them all, as the sons of the North advance!

Here's to the gray of the sun-kissed South, when they meet on the fields of France:

May the spirit of Lee be over them all, as the sons of the South advance!

Here's to the blue and gray as one, when they meet on the fields of France:

May the spirit of God be over them all, as the sons of the Flag advance!

—E. L. Mayo,
in the Buffalo Courier.

A New Song of Hate

MY Tuesdays are meatless,
My Wednesdays are wheatless,
I'm getting more eatless
Each day.

My home it is heatless,
My bed it is sheetless—
They're all sent to the
Y. M. C. A.

The bar rooms are treatless,
My coffee is sweetless,
Each day I get poorer
And wiser.

My stockings are feetless,
My trousers are seatless,
By gosh—but I do hate
The Kaiser!

—Asheville Citizen.

Dyke's Automobile Encyclopedia—Seventh Edition

THE seventh edition of this remarkable book, revised, enlarged and brought up to date with many new illustrations, is just off the press.

Under the heading of "carburetion" such subjects as "hot-spot" carburetion; heating of the mixture; heating of the air; and kerosene as a fuel have been covered in a very simple but yet comprehensive manner.

Then too the electric, repair and ignition subjects have all been greatly improved and enlarged.

There are many new additions to this edition that were not in the former, such as trucks, tractors, motorcycles, aeroplanes and aeroplane engines.

Under the subject "Trucks," there is complete detailed instruction for disassembling and repairing all parts. Governors as used on trucks are thoroughly and clearly treated with illustrations of various kinds. The four-wheel drive truck is also shown and described, as well as internal drive rear axles.

The subject of "Tractors" explains different methods of drive as "chain" and "rail-track" treads. In fact, every part of tractors is very clearly covered. This alone should make the book well worth the price to those using tractors.

Motorcycles are also described, including valve timing and action, ignition, etc. Several makes of magnetos are reviewed and explained.

At this time, with the intense interest in aeroplanes and their engines, the information in this book on that subject is more than valuable.

Mr. Dyke thinks so well of graphite lubrication and Dixon's Graphite Automobile Lubricants that he has included under the heading "Lubrication" a reference to them, and also explains how flake graphite should be used for cylinder lubrication. This endorsement by such an authority is evidence of the high quality and value of Dixon's Graphite Automobile Lubricants.

With the Dyke Encyclopedia any intelligent amateur or professional may find at once not only the theories of mechanics, etc., but common sense, practical explanation of the best way to make cars do their best and how to repair them.

This book is worth far more than the price of \$3.50 to any owner of an automobile. The address of the publisher is A. L. Dyke, Roe Building, St. Louis, Mo.

GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

"WE are in receipt of your sample ELDORADO pencils, for which please accept our thanks. We have tried them and find them very satisfactory and will order same when next requiring drawing pencils."

"WE have your letter of —, relative to Dixon's ELDORADO drawing pencils. We have tried these in our drawing room and find same to be satisfactory."

"WE thank you for your letter of — and the sample pencils sent therewith. We find that the sample pencil 7H, ELDORADO, is better than anything we have ever used before and we will take up the matter of exchange for the 4H pencils for 7H pencils with the people from whom we purchased them."

"REPLYING to your letter of —, relative to samples of Dixon's ELDORADO pencils, would say that the samples have proved most satisfactory and we shall specify this grade in our future orders."

"REFERRING to your letter relative to your ELDORADO pencil, wish to advise pencils were received and met our requirements very nicely."

"THIS is to advise you that the samples of ELDORADO 'master drawing pencils' I received from you some time ago are equal if not better than the best drawing pencil I have used in the last twelve years, barring none. One notable feature about your pencils is the fact that when once sharpened the points last quite a long time before sharpening same again. In view of the above fact, I shall hereafter specify ELDORADO 'master drawing pencils' when ordering again."

"REPLYING to yours of the —, we wish to advise you that your samples of ELDORADO were very satisfactory and we will consider them in the next purchase that we make."

"WE are using your pencils now and find them very satisfactory. Will order for next year."

"YOUR man left me several of your 'master drawing pencils' and I must confess that they stand up against anything I have used. It looks as though you've got the goods and I assure you that I intend to recommend that my students use the ELDORADO—'the master drawing pencil.'"

"REPLYING to your letter of —, I have used the pencils you left with me and found them very satisfactory and very likely will order Dixon's the next time I order pencils."

"YOUR agent left us two pencils, a hard one and a soft one. They are all right, very satisfactory. A short time after receiving the samples I was at a mine in the mountains and gave them to the manager who was just wanting a pencil and I thought it due you to pass them on."

"AMERICA at last has produced a fine drawing pencil! I congratulate you on your energy and research."

"I FIND your ELDORADO pencils just what they are claimed to be and perfect drawing pencils. Many thanks for the samples. I will continue to use your pencils when making drawings, and can cheerfully recommend them."

"WE have your letter of the 23rd inst. in regard to samples of ELDORADO pencils left with us by your representative some time ago. These pencils have had a thorough try-out and we believe our drafting room found them quite satisfactory and are now using them."

"REPLYING to your communication of —, with which you enclosed samples of ELDORADO pencils, wish to advise that we have been using these pencils for some time past and have found them satisfactory in every respect."

"WE are in receipt of the three ELDORADO pencils, for which please accept our thanks. The non-smudge feature is what we are looking for in a lead pencil for field use and the writer can testify that the ELDORADO fills the bill."



This Booklet Shows You The Way To Better Lubrication

It tells you clearly, entertainingly, convincingly what causes Friction.

It explains how graphite lubrication is the best method to combat Friction's constant wear and tear on your car.

It demonstrates how

DIXON'S
GRAPHITE
Automobile
LUBRICANTS

put Friction to rout and help your peace-of-mind and pocketbook.

It shows the many uses of Dixon's and how to use the right kind in the right place in motor car, motor boat or motorcycle.

Write for copy No. 190-G of this most instructive and helpful booklet. Tell us what make of car you drive and give your dealer's name. Also ask for the Dixon Lubricating Chart.

JOSEPH DIXON CRUCIBLE COMPANY

JERSEY CITY, NEW JERSEY

Established 1827



THE DE VINNE PRESS
NEW YORK

JOSEPH DIXON CRUCIBLE CO.
Graphite
PENCIL DEPARTMENT
JERSEY CITY, N. J., U. S. A.
ESTABLISHED 1827
INCORPORATED 1868
May 7, 1918.

Dear UNCLE SAM:

Of course the THIRD LIBERTY LOAN was a success. And we want to be among the first to congratulate you upon what we regard the most remarkable sales campaign ever conducted.

To begin with, the quality of the "goods" you were selling was faultless.

In the second place, your advertising was superb. It was another indication of the kind of work that can be done when the heart is in it.

And finally, your sales organizations and sales talks were such that they are still dazzling us.

In brief, during a period of four weeks you kept tugging away unceasingly at both our hearts and minds, and the fact is that many of us had difficulty in keeping ourselves from over-doing rather than under-doing.

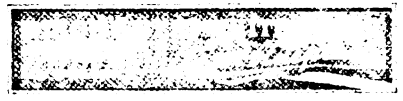
Moreover, we believe you are capable of doing even better next time.

Faithfully yours,

JOSEPH DIXON CRUCIBLE COMPANY.
Pencil Department.

P.S.: In buying Liberty Bonds and War Savings Stamps, or in contributing to the Red Cross, Y. M. C. A., K. of C. and B. B., we are impressed with this fact; that it is quite easy after all to do without some things that we formerly considered essential to our welfare and happiness. Besides, how good we feel when we are conscious of the fact that we are shouldering our own portion of the load.

DIXON'S
ELDORADO
"the master drawing pencil"



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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WILLIAM G. BUMSTED	EDWARD L. YOUNG
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OFFICES AND SALESROOMS

NEW YORK SALESROOM	68 Reade Street
PHILADELPHIA SALESROOM	1020 Arch Street
SAN FRANCISCO SALESROOM	155 Second Street
CHICAGO OFFICE	1323 to 1327 Monadnock Block
BOSTON OFFICE	347 John Hancock Building
ST. LOUIS OFFICE	501 Victoria Building
BALTIMORE OFFICE	616 Professional Building
BUFFALO OFFICE	409 Erie County Savings Bank Bldg.
ATLANTA OFFICE	225 Peachtree Street

EUROPEAN AGENTS

Graphite Products, Ltd., 918-920 Queen's Road, Battersea, London

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FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

ALFREDO J. EICHLER, *General Agent*

Agent for Argentine, Uruguay and Paraguay

N. H. Pratt, 185 Paseo Colon, Buenos Aires

Agent for Chile, Peru, Ecuador and Bolivia

Enrique Seller, Calle Huerfanos 761, Santiago, Chile

Agent for Brazil

M. V. Powell, Edificio Guinle, São Paulo, Brazil

CUBAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

William Croft, Room 424 Lonja del Comercio, Havana

PORTO RICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

H. Glyde Gregory, Royal Bank Building, San Juan

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FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

National Paper and Type Company, 31-35 Burling Slip, N. Y.

*With Branch Houses in Mexico, Cuba, Peru, Argentine,
Uruguay, Venezuela, Porto Rico and Colombia*

CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

A. R. MacDougall & Co., Ltd., 468 King St., West, Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.

A pencil that almost writes alone

Put the point on the paper and think. Before you realize it, your Eldorado will be gliding along without appreciable effort—in perfect time with your thoughts.

DIXON'S ELDORADO

"the master drawing pencil"

is so smooth that it *makes your work easier, less tiring, quicker.* The unusually strong leads save the bother of frequent resharpening. They are most economical in use.

There is among the 17 true degrees an Eldorado best suited to your work.

Send on your letter head for free full-length samples. Write us the degrees you want or the nature of your pencil work.

JOSEPH DIXON CRUCIBLE CO.

Dept. 190-J, Jersey City, N. J.





Does It Ever Occur To You?

DOES it ever occur to you, if you are a user of Dixon's ELDORADO—"the master drawing pencil," how much scientific, painstaking effort is involved in producing this article, which can be purchased for the small sum of ten cents each?

An enthusiastic visitor through our Pencil Factories recently remarked: "After what I have seen, the wonder to me is that we do not have to pay \$1.00 each for ELDORADO pencils, rather than ten cents each."

Let us go first to the factory where we make our pencil leads, commonly referred to as "the heart of the pencil." And let us assume that we have at hand the right kinds of graphite and clay, properly purified and prepared individually, and properly proportioned and blended together, ready to go into the grinding mills. Does it occur to you that from that time to the time the leads are finished the *minimum* time that elapses in the production of any one of the seventeen degrees of hardness of ELDORADO leads is four months? And during this time the leads are constantly in process, including the grinding, the forming from the plastic mass, the burning and other forms of preparation.

Then let us go to what we style our pencil factory proper. And let us assume that the cedar slats have been properly treated, grooved and selected by experts as the very finest quality cedar. Does it occur to you that from the time

we start to put ELDORADO leads into these

cedar slats to the time they are ready to go to our stock room as finished and packed ELDO-

RADO pencils, another four months' time on the average has elapsed? To tell you what is involved in the glueing together of the cedar slats after the leads have been put into the grooves, in the shaping of the pencils, in the seasoning, in the varnishing, in the hand-finishing, in the gold-leaf stamping, in the careful inspection of each individual pencil following each principal process, etc., would mean the use of more than the entire printing space of GRAPHITE.

And when we tell you what is necessary to the production of a super-quality pencil like Dixon's ELDORADO—"the master drawing pencil," may we also add that those who have had opportunity to go through the leading pencil factories in this and other countries, and who are capable of forming intelligent judgment, inform us that we have the most modernly equipped pencil factories in the world? Of course, in pencil making methods it is a question of the quality of the pencils produced, just as in automobiles it is a question of whether you are making a \$5000 car or a \$500 car.

In conclusion, we want to assure you that no effort or expense will be spared to emphasize the distinction that the ELDORADO pencil enjoys as a *real American achievement*.

P. O. BOX 46

TELEPHONE RECTOR 4901 TO 4919

LIBERTY LOAN COMMITTEE

PUBLICITY DEPARTMENT

EQUITABLE BUILDING TWENTY-FOURTH FLOOR

120 BROADWAY
NEW YORK

THE LIBERTY LOAN COMMITTEE

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C. F. PRITCHARD
MANAGER, OFFICE BUREAU

BROSVENOR FARWELL
MANAGER, SERVICE BUREAU

April 24, 1918

Joseph Dixon Crucible Co.
Jersey City,
N. J.

Gentlemen:

The samples of your "Eldorado" pencils sent me some time ago have proved to be so satisfactory that, with other artists, I have used them exclusively in the work done for the Third Liberty Loan advertising campaign.

Selecting the 4B pencil as a grade suitable for bold and rapid work, I gave it the acid test by reproducing several drawings direct, that is, by making a line-plate of each one with good results.

The "Eldorado" is a fine lead-pencil.

Very truly yours,

L. F. Grant

Lubrication of Air-Compressor Cylinders

RECENT disastrous explosions in air-compressor systems present striking examples of the danger existing from the use of ordinary engine oil in the air cylinders of air compressors. Only a pure mineral oil, with a flash point as high as good lubricating qualities will permit, should be used. As little as possible of even the best oil should be used.

Numerous cylinder oils are compounded, and such oils are likely to produce a carbon that will stick the valves and collect on valve faces and other parts of the cylinder and valve chambers, resulting in a dangerous condition.

Air receivers are liable to explosion from accumulated oil deposits. Every receiver should be equipped with a pressure gage, a safety valve, and proper drains, and all reservoirs and likely places of deposit in the air line should be thoroughly and frequently drained and cleaned. It is bad practice to have the inlet of an air compressor take from a hot or dusty room—the air should be cool and as clean as possible.

The practice of throwing kerosene oil into the inlet of an air compressor to clean it is an extremely dangerous one, and the cause of an explosion under such circumstances is not difficult to understand. Lubrication of the air cylinder with soapsuds (preferably made of soft soap, about one part soap to fifteen parts water) for a few hours each week (or less frequently if the load is light), instead of oil, will help very materially in keeping the cylinder clean. The only danger from the use of soapsuds is rust, and this should be overcome by being careful to discard the soap and feed the cylinder with oil an hour or so before shutting down. The receiver blow-off should then be opened and the accumulation of oil and water drained off.

An air-compressor engine should not be controlled by the air pressure alone, as many are, but should be fitted with an auxiliary governor which will act as soon as the speed rises above a certain predetermined limit. This will prevent the engine from "racing" in case an accident to the tanks or piping causes a sudden lowering of the pressure. It is not necessary for an explosion to take place to produce a lowering of the pressure, as the giving way of a pipe, valve or tank from any cause will have the same effect. (THE NATIONAL SAFETY COUNCIL.)—*Power*.

The above article states our opinion in the words, "As little as possible of even the best oil should be used." We have said so for years. The logical lubricant for compressors is Dixon's Flake Graphite. A graphite lubricator that automatically supplies flake graphite to compressor cylinders provides not only the *safest* but the *most dependable* lubrication possible. If you are interested in better service ask for a booklet on the subject.

Knew His Place

SISTER SMITH was called upon for testimony in a revival meeting. She humbly declined in these words: "I have been a transgressor and a black sheep for a good many years and have only recently seen the light. I believe that my place is in a dark corner behind the door."

Brother Jones was next called upon. Following Sister Smith's meek example, he said:

"I, too, have been a sinner for more than forty years, and I do not think I ought to stand before you as a model. I think my place is behind the door, in a dark corner, with Sister Smith."—*Ladies' Home Journal*.

Treasurer of the United States Shipping Board

THAT George T. Smith, recently called to Washington to assume the position of treasurer of the United States Shipping Board, is held in high esteem by his fellow citizens was fully attested on Saturday evening, April 27, when two hundred men, all prominent in financial, business and political circles, gathered in the Carteret Club, Jersey City, to participate in a testimonial dinner arranged by his fellow directors in the New Jersey Title Guarantee and Trust Company, the First National Bank and the Joseph Dixon Crucible Company. It was the most distinguished gathering seen in Jersey City in many a day and a splendid tribute to the man who readily sacrificed large business interests and responded to the call of duty in order to do his full duty in helping Uncle Sam win the war.

President Woodrow Wilson was represented by his private secretary, Joseph Tumulty. Former Supreme Court Justice Gilbert Collins was toastmaster. Mr. Bainbridge Colby, one of the directors of the Shipping Board, was also one of the speakers, and aroused great enthusiasm with a patriotic speech in which he referred to the many great things being done by the Shipping Board.

After the dinner, former Supreme Court Justice Gilbert Collins, acting as toastmaster, took charge of the affair, introducing the speakers one after the other. He paid high tribute to the guest of the evening.

He then introduced Judge John A. Blair, who spoke feelingly of the intimate relations he had enjoyed both in business and socially with the guest of honor, Mr. George T. Smith. He spoke of the pride which every friend of Mr. Smith feels at his elevation to such a high and responsible position, so vital in the successful conduct of the war. He said that Jersey City and Hudson County regretted losing the inspiring influence of Mr. Smith, but his loss here would be the Nation's gain, and he congratulated the Government on selecting a man of Mr. Smith's type for a big job.

In responding, Mr. Smith said that he was indeed gratified at the signal honor paid him by his many friends. He hoped their confidence was not misplaced and assured his friends that he would give the best in him and his greatest energy to his new office.

Mr. Colby in his speech told his hearers that in planning for the development of the Port of New York the Shipping Board is doing so not alone with the idea of meeting war necessities, but with a clear conception of the "post-war" possibilities for making of the port the greatest shipping center in the world. In the planning, he asserted, New Jersey is to be considered as one of the most valued units in the port organization.

Mr. Charles F. Piez, vice-president of the Emergency Fleet Corporation, who was to be present, sent his regrets in a telegram in which he stated that Charles M. Schwab, the new Director-General of Ship Construction, had laid out so much work for the Emergency Fleet Corporation that he could not steal a minute from his duties.

Mr. Schwab, who had also been invited to attend the dinner, said that his work prevented him from doing so.

The arranging of the dinner, and the carrying out of all of its effects in the way of music, decorations, etc., was in the hands of Mr. Julian H. Schermerhorn, vice-president of the Joseph Dixon Crucible Company. Mr. Schermerhorn, through his own personal acquaintance with New York experts in that line, and his many years of experience, was able to make it, as he did, "a thing of beauty and a joy forever."

William Mann Co., Philadelphia, Pa.



A. Pomerantz & Co., Philadelphia, Pa.

ELDORADO Liberty Loan Window Displays

IN the development of the art of window dressing, the Stationery Trade has kept pace with the times. The beautiful and tasty displays of Dixon's ELDORADO—"the master drawing pencil," reproduced on the opposite page, are some evidence of this fact.

The top display was arranged in the store window of

WILLIAM MANN COMPANY, 525 Market Street, Philadelphia, of which Mr. Harry A. Prizer, whose picture appears in the inset of the illustration, is the well-known President. The Mann establishment is located in the best wholesale district in the city of Philadelphia, where, in conjunction with their very extensive manufacturing stationery business, they enjoy a large retail commercial stationery trade.

The bottom ELDORADO display was arranged in the store window of

A. POMERANTZ & Co., 1525 Chestnut Street, Philadelphia. Appearing during the period of the THIRD LIBERTY LOAN drive, note the patriotic emphasis which harmonized nicely with the blue and gold colors predominating in the ELDORADO display material. Altogether the display was in keeping with the modern note struck by Mr. Pomerantz in his new, unusual store, which is located in the finest retail section of the city of Philadelphia. The inset shows the genial features of Mr. A. Pomerantz.

Does it mean anything to you that so many representative houses of the caliber of A. Pomerantz & Co., and William Mann Company are earnestly interested in serving their customers with Dixon's ELDORADO—"the master drawing pencil"?

Proof that ELDORADO Window Displays Pay

HERE is direct evidence that the ELDORADO window display is a business-getter and a means of educating customers to realize the possibilities of Dixon's ELDORADO—"the master drawing pencil."

"From your ELDORADO window display I received almost immediate results, besides creating a demand for a ten-cent pencil among customers who have been using a cheaper grade."

The Man and the Pencil

WHETHER Technical-MAN, Professional-MAN or Business-MAN, there never was a time in the history of this country when we expected so much from him as right now. At the risk of appearing flamboyant, therefore, we wish to say to the distributors of Dixon's ELDORADO—"the master drawing pencil"—that we believe they are performing a valuable economic service in bringing together "the man and the pencil."

Annual Meeting, 1918

THE stockholders of the Joseph Dixon Crucible Company held their annual and regular meetings on Monday, April 15th. The following directors and officers were elected:

DIRECTORS

GEORGE T. SMITH	GEORGE E. LONG
WILLIAM G. BUMSTED	EDWARD L. YOUNG
J. H. SCHERMERHORN	HARRY DAILEY
ROBT. E. JENNINGS	

OFFICERS

GEORGE T. SMITH, *President*
 GEORGE E. LONG, *Vice-President*
 J. H. SCHERMERHORN, *Vice-President*
 HARRY DAILEY, *Secretary*
 WILLIAM KOESTER, *Treasurer*
 ALBERT NORRIS, *Asst. Secy. and Asst. Treas.*

Of the 20,000 shares of stock 19,379 were voted. Undoubtedly a greater number would have been voted had it not been that a number of shares are held by estates, the executors of which do not feel at liberty to vote in an election.

The report made by President Smith and the remarks made by him on the business of the Company were received by the large number of stockholders present as most satisfactory and pleasing in every way.

The American Graphite Company, incorporated under the laws of the State of New York, is a subsidiary of the Joseph Dixon Crucible Company, and its annual election was held on the same day as that of the Joseph Dixon Crucible Company, and resulted in the election of the following officers:

GEORGE T. SMITH, *President*
 GEORGE E. LONG, *Vice-President*
 J. H. SCHERMERHORN, *Treasurer*
 HARRY DAILEY, *Secretary*

The directorate is the same as that of the Joseph Dixon Crucible Company.

A Word from British Honduras

C. H. Tucker,
 ARCHITECT,
 1, C. S. GRADY,
 Accurately draws Plans and
 Specifications a Specialty.
 102 NIMROD STREET.

Drunk Cottage,

PHONE 179

BRIEF, Mar. 29

1918

JOSEPH DIXON CRUCIBLE Co.,
 JERSEY CITY, N.J.
 U.S.A.

Dear Sirs:-

After giving the samples of your DIXON'S "ELDORADO" the master drawing pencil sent me recently a fair trial I can unhesitatingly say that I am of opinion that they are the "ACME OF PERFECTION".

Respectfully yours,

C. H. Tucker

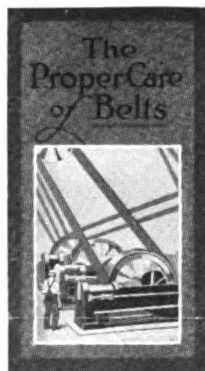
Curing Squeaky Springs

ONE of the most annoying things about an automobile is a squeaky spring. When a motorist complains about it to his garage man or to the dealer who sold him the car, it is evident that he has not been using the right kind of lubricant. Plain oils and greases squeeze out and permit friction between the bare metal of the leaves. The proper lubricant is one that will form a tough, enduring film between the leaves, preventing metal-to-metal contact.

We give this advice about lubricating the springs: Jack up the car so that all the weight is off the springs and spread the leaves apart with a screw driver or instrument provided for that purpose. Then smear a creamy mixture of kerosene and motor graphite between the leaves.

Springs thus treated will ride much easier and will be entirely free from squeaks. If the graphite is of pure flake variety, it will adhere to the surfaces, filling up and smoothing over the minute irregularities, and will not squeeze out.

A New Belt Booklet



"THE Proper Care of Belts" is the title of a new booklet gotten out by the Joseph Dixon Crucible Company. We suggest that engineers obtain a copy for their files.

As long as the original condition of life and pliability of a belt is preserved it is worth its cost price. To neglect belts will result in a twofold loss: a waste of power due to the inefficiency of the belts, and increased cost due to frequent belt renewals. Just now as never before it is essential that belting be given careful attention.

The booklet contains helpful suggestions for getting maximum results from belts and in addition has several pages devoted to useful information of a general character.

Those interested should write to the Joseph Dixon Crucible Co., Jersey City, N. J., Dept. 190-O, for a sample of Dixon's Solid Belt Dressing.

You've Tried the Rest! Now Try the Best!

THIS may not be poetry but it's real Protective Paint Philosophy:

Dixon's Silicate-Graphite Paint is service-proof; costs a few cents more per gallon, perhaps, but it costs less per year of service.

Dixon's Paint costs less per labor-hour, because you don't have to apply it every year or every couple of years like some other paints you have used. Some Dixon records run all the way from 5 to 15 years, and even longer.

The Dixon Company has not reduced one iota the standard "highest quality only" of pigment and linseed oil vehicle. This guarantee is unusual in these times.

One day's rust costs more than the interest on a year's paint bill. "Paint to-day and be rust-proof to-morrow" is good philosophy for several years of paint satisfaction when you use Dixon's Silica-Graphite Paint.

Do you know that the Dixon Company issues illustrated and instructive literature? Write us for some of it and tell us your paint troubles.

Mechanical Engineers and House Owners, Attention!

THE following letter comes from John Gribble, Mechanical Engineer of the Niulii plantation of Kohala, Hawaii:

Niulii Plantation.

"In reply to your inquiry, I think Dixon's Silica-Graphite Paint is the finest paint made for the class of service it is recommended for, and also for several things outside of iron work.

"I always use it every chance I get and recommend it. We use it at this sugar plantation.

"The last time I used it on my residence. As a roof paint I claim it can't be beaten. You can use this recommendation in any way you see fit."

NIULII PLANTATION,

(Signed) JOHN GRIBBLE, *Mechanical Engineer.*

It is obvious that Dixon's Silica-Graphite Paint is the popular protective paint around sugar plantations, railroads, etc., and for all exposed metal or wood surfaces in the tropics.

Here follow some "machine gun" truths regarding Dixon's:

Costs least per year of service.

Rust costs more than Dixon's.

Dixon's is the guaranteed FIRST QUALITY only.

Dixon's lasts more years; so worth more per gallon.

Makes wood last like iron.

Cold or hot, wet or dry—no climate conquers Dixon's.

Dixon's goes wherever metal goes.

Made in four service colors.

Be educated in Dixon illustrated literature.

Follow the example of Mechanical Engineer Gribble.

Henry Nelson McKinney

HENRY NELSON McKINNEY, one of the best known advertising men in this country and father of the famous trade-mark "Unedea," died Sunday, April 28, at his home, 600 West End Avenue, New York, in his sixty-ninth year. Mr. McKinney's parents were missionaries in South Africa and he was born at Natal. He was sent to this country to be educated. He acquired a book publishing business of his own soon after he entered business.

In 1885 Mr. McKinney entered the employ of N. W. Ayer & Son, Philadelphia, and three years later was admitted as a member of the firm. There he found a fertile field for his imagination and ability as a writer of strong advertisements and soon won recognition as one of the foremost writers of advertisements in the country. He directed many country-wide advertising campaigns.

N. W. Ayer & Son and the Joseph Dixon Crucible Company have been closely connected for over thirty years, and very intimately so, through "Major" McKinney, as his friends lovingly called him. Mr. McKinney was a man of a most genial, pleasant and wholesome personality. Even those of the Dixon Company who had but a slight acquaintance with him, felt a strong sense of affection for him. In his death the Dixon Company feels that it has lost a dear friend and a most valued adviser in all advertising and sales promotions, and in this way we express our sympathy and regrets.

Trade Openings in Latin America

Scope and Character of the Demand—Britain's Capabilities for Meeting It—The Competition of the Future

THE *Buenos Aires Herald* of Saturday, February 9, 1918, devotes almost an entire page to an article under the above heading. The article is by the editor of the *London Financial Review of Reviews*. It would be well if every manufacturer and merchant of the United States who makes or sells goods suitable for Latin American trade could read this article. It starts off with the remark:

"In the struggle for recuperation in which all nations alike will participate after the war, there will be no part of the world where the contest will prove more active than the Latin Americas. These countries do no manufacturing and it is, therefore, the manufacturing nations—Great Britain, United States, France, Germany, Italy, Belgium, Switzerland, Austria-Hungary and Japan—which will have to supply their manifold wants, in return for the raw materials which they can provide."

Mr. Martin, the editor of the *Financial Review of Reviews* and the writer of the article, has had over twenty-five years' experience as a world-wide traveler. His knowledge of the Latin-American countries is perhaps unsurpassed, and his contributions upon economics, dealing with these and other parts of the globe, have appeared in most of the leading organs and works of reference of the day.

Mr. Martin tells his readers that the Latin-American market is vast and barely appreciated. It comprises some 80,000,000 square miles of territory, and is inhabited by some 78,000,000 people.

Mr. Martin calls the attention of his readers to how well the United States has done during the war period. He calls the attention of his readers to the fact that Latin-America is not a single country, but twenty different countries, with different climates, different people, different tastes and different resources; calling, therefore, for a great supply of widely different goods.

To the mind of Mr. Martin, Brazil seems to be the most promising field. Brazil alone has 23,000,000 people and covers a territory of 3,298,800 square miles. Its economic development has really only just commenced, while its own resources are upon an infinitely larger and wider scale than those of the sister states.

He tells what English manufacturers have done in the way of gaining trade, and urges them to still further effort. He points out the activity of Germany, as a trade rival, and tells us that personal representation of some kind in the South and Central States is absolutely essential for the establishment of manufacturing and commercial relations. "It is absurd," he says, "to suppose that it is possible to open up and perpetuate such relations by means of correspondence alone"; and yet he tells us that there are many British merchants who think so.

Mr. Martin adds:

"It may be said in conclusion that the smaller as well as the larger of the Latin-American markets are worthy of our closest attention."

Throughout the entire article figures and statistics are given of the business done by the various commercial countries, and the strongest possible appeals are made to the manufacturers and merchants of Great Britain to cultivate and capture Latin-American business.

A Dream That May Come True

PROFESSOR GIACOMO CIAMICIAN of Bologna, in an address before the Eighth International Congress of Applied Chemistry, asked us why we use only the fossil energy of the sun—which is what we do when we burn coal. He asks us why we do not get power direct from the sun. He tells us that plants do this thing, and insists that there must be a way for humans to do it, and that possibly when the secret is mastered human industry will accomplish the work and do it far more than Nature, because Nature is not in a hurry and mankind is.

Of course if we wrest the secret from Nature we shall be able to do such work only when the sun shines. When the sun ceases to shine we shall not want anything at all. The professor tells us that perhaps the man who would shortly have made this discovery has been killed in the war, as so many able scientists and inventors have gone to the war and given up their lives.

The professor said: "When the rays of the sun strike the green leaves of a plant, carbonic acid gas and water vapor or moisture are gathered in from the air, and these within the remarkable laboratory of every green leaf are turned into sugar. At the same time oxygen is set free, back into the air. The reaction requires heat and the sun's rays provide it."

"The plant operates other chemical factories and these transform sugar into starch, which is stored in the seeds to feed each sprouting plant until it gets big enough to grow green leaves and make sugar and starch for itself. Starch is also transformed within the plant into gums and cellulose, and the structural basis of wood is cellulose. Please observe also that the sun provides the heat for all of these reactions."

"When we burn wood or coal we reverse the process: we draw upon the oxygen that has been set free into the air when this or some other tree grew and we combine or burn it with the carbon and hydrogen which is in the wood or coal, to carbonic acid gas and water again."

"That is the great cycle of vegetable life, beginning with carbonic acid gas and water and ending in carbonic acid gas and water. The reversed reaction gives off heat instead of requiring it, and that is why we burn wood or coal: to get the heat back that the sun provided long ago."

"White smoke is mostly steam and carbonic acid gas. Black smoke is mostly carbon that got frozen out in the fire or couldn't find oxygen enough to combine to carbonic acid gas again."

"The desert of Sahara alone receives every day in solar energy the equivalent of six billion tons of coal."

Proofs of Merit

THE reason that Dixon's Graphite Automobile Lubricants are enthusiastically recommended by our dealers is shown in the following letter received from the Rudolph and West Company, Washington, D. C.:

"The quality of Dixon's Graphite Automobile Lubricants justifies our highest recommendation. The enthusiasm displayed by our new customers and the increasing patronage of our old ones are reliable proofs of their merit. Since the watchword of our patrons is 'Quality' and the high quality of your product fully substantiates the price, they therefore successfully meet the demand of the public."

Acceptances

MR. W. G. AVERY, Assistant Manager of the Foreign Department, Guaranty Trust Company of New York, in an address before the Bond Men's Club, Chicago, said:

"To quote from an eminent authority and an indefatigable worker in the interests of the commercial acceptance:

"The line of duty for us is clear—buyers and sellers and bankers, American business men all, should get squarely behind the trade acceptance and follow this splendid movement in its interest, which has been put upon such a definite basis. Let us think in terms of war, and war necessities and conditions after the war, and not in terms of a business past, now as clearly removed as is the past of the Pharaohs.

"Let us realize that there has come into the world, and particularly into this great Western world of our own, a new spirit,—a new dispensation,—new responsibilities, and new obligations, which we dare not disregard. The acceptance is here—is here to stay,—is a part of the business and financial life of this community, whether or not the occasional banker or business man would have it so. The only question is, how soon will it be possible to bring this fact definitely to the attention of the business of the country?"

Every Minute They Will Die

EVERY minute, minute after minute and hour after hour, Americans are dying over there in France—torn to pieces by shells, disemboweled by bayonets, miserably gasping out their lives while suffocating gases tear their laboring lungs or burst their hearts. Every minute some brave boy, before whom lay a long life of usefulness and happiness until the kaiser sacrificed the peace of the world to his ambition, is

dying just when life is sweetest and ought to be most full of promise. And every minute and every hour and every day and every month young Americans will continue to die until we have won this war. Must we not all do something, everything in our power, to win it as soon as possible?—*Havana Post*.

An Evening Out

A SPOT-LIGHT on the dull care of business was an evening out, given by Mr. A. L. Haasis of the Crucible Department, April 24th, to some fifty of the Dixon staff, and especially

Neglected Possibilities

MR. ALBERT BRETON, Vice-President in charge of the Foreign Department of The Guaranty Trust Company of New York, among other good things, tells us that our general lack of knowledge regarding foreign banking has been largely due to the fact that this is relatively a new country. Prior to the beginning of the great war we were occupied in developing our own business, our own resources, in building new factories, and in constructing new railroads. We were busy in the making of this wonderful commonwealth, which to-day has attained a pinnacle among the powers of the world.

Mr. Breton gives instances of our ignorance of geography that would be surprising to our foreign competitors. He also makes more or less comment on our ignorance of modern languages. We are all interested, or should be, to-day in South American countries, but very few of us know how to speak Spanish or how to translate it.

Ain't It Discouragin'?—Hopkins



in honor of Henry W. Armstrong and William McFadden, two members of the Honor Roll of the Dixon Company.

The evening began with a dinner at the Gregorian, New York City, and ended with the theater. At the dinner the ladies and gentlemen were grouped in a most congenial manner and so well balanced that each table found no lack of wit or talk.

Between courses the guests mingled and danced to the music furnished by a most excellent band.

The prize dancers of the evening were Mr. Engelbrecht and Mrs. Midlige. They gave an exhibition of the old time dances in a most delightful manner, and with consummate grace. In fact, when they left the floor no rivals appeared to question their skill and grace.

Blondes and Brunettes

Certain Physical Traits Correspond with Certain Mental Traits

TAKE, for example, color. Blondes are positive, hopeful, creative, fond of variety and love to organize and rule over their fellows. The United States has not had a distinctly brunette President since Lincoln. The rulers of nearly all the great nations of the earth are blondes. Brunettes are affectionate, inclined to be anxious, conservative, constant, thoughtful, and love to specialize in their work and other interests. Christianity, Buddhism, Mohammedanism, and Confucianism, the four principal religions of the world, had their origin and have their most devoted adherents among brunette peoples.—*Printers' Ink*.

Graphite Removes Boiler Scale

IT is claimed that boilers troubled with scale—especially when caused by magnesia—will not only cease to form scale, but will have gradually removed that already formed, if a small amount of graphite is used with the feed water. The action on the magnesia in the water is to precipitate a mixture of magnesia and graphite in the form of a slime which may be easily washed out, while on the scale already formed the particles of graphite seem to work in between the scale and the steel, gradually loosening the scale as the treatment is kept up. In particularly bad cases the boiler should be inspected at the end of the first ten days and not less than every fifteen days thereafter for a couple of months. After this every thirty days will probably be sufficient.—*Power House.*

Efficiency in Agriculture

THE *Operative Miller* tells us that the vaunted German will not always stand a test of comparison.

The Germans boasted of being the greatest farmers on earth. Investigation shows that in efficiency in agriculture, measured by the produce per acre, America being graded 100, Belgium leads the world at 205; Great Britain comes second, at 164; and Germany third, at 155; America comes fourth.

But the better test is the man test rather than the acre test, and here America leads the world by over 2 to 1. Again, grading America at 100 per farm worker, Great Britain produces 43 and Germany 41. The American farmer cultivates 27 acres, the German farmer but 7. With the aid of vast quantities of fertilizer the German produces more per acre, but he produces at a much greater cost per bushel and he produces much less than half as much per man.

In Japan

THOUGH the Japanese are practically vegetarians, fish and fowl are freely consumed. No less than four hundred and fifty kinds of fish are caught in the waters of Japan, many of which are edible. Fishery supplies an important source of employment and of diet. It furnishes an amount of food valued at about fifty million dollars, and employs the vast number of nearly two million people.

GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

From an Artist:

"THE samples of pencils recently sent to me by the Joseph Dixon Crucible Company were very satisfactory and I shall certainly use them in the Art Department of the School."

From a Business Man:

"THE samples of Dixon's ELDO-RADO—the master drawing pencil—were received some time ago, for which I thank you. I found your pencils very satisfactory, and I am pleased to have this opportunity of recommending these excellent pencils."

From two Engineers:

"SOME time ago you sent me samples of ELDO-RADO pencils, and wish to state that my draftsmen like them very much."

"I HAVE tried ELDO-RADO drawing pencils with great satisfaction and can recommend them highly to all of those who have any drawing work to do."

From a Lawyer:

"REFERRING to your favor of January 29th, with which you enclosed samples of the ELDO-RADO brand pencils. After giving same a fair trial we are pleased to say that we are well pleased with the quality of these goods. We find them to be a smooth-writing pencil of high grade and we thank you for the opportunity of testing them."

A Draftsman says:

"I WISH to thank you for the samples of drawing pencils which you sent me. I have tested them and found them superior to any I have ever used. I shall keep you in mind when I give my next order for pencils."

From a Builder:

"WE beg to say the writer has been using your ELDO-RADO pencils since receiving them and is well pleased with them. Will use them as far as possible and whenever obtainable, although our pencil requirements are small."

A Merchant says:

"I FIND your pencils excellent. I am pleased to find an American pencil that meets all my requirements."

An Office Manager says:

"YOUR sample pencils were approved in the office as a substitute for the — pencils we have used for many years. We have already ordered a first lot of them."

A College Professor says:

"I WISH to thank you for the drawing pencils and your white pencil No. 352, which arrived several days ago. I find that they are equal in quality to the pencils which we formerly regarded as being the best."

An Accountant says:

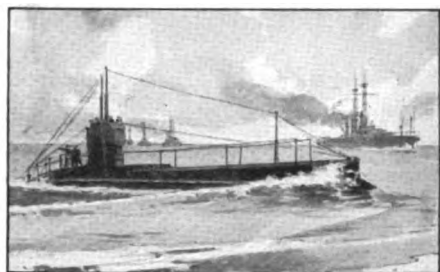
"I HAVE thoroughly tried out your pencils sent me and find them most excellent. The ELDO-RADO drawing pencils are the best I have ever used; the lead is very smooth—never find a rough place. These pencils will stand sharpening to a very fine point and never break. I am using your pencils in my accountant work, and will do so all the time."

From three Architects:

"I AM in receipt of samples of ELDO-RADO pencils and am pleased with them. I have been in the habit of specifying Dixon pencils whenever practical and shall continue to do so."

"WE desire to thank you for the samples sent us for trial and would say that we have found them to be unusually satisfactory and regular in their degree of hardness. We believe that it will be to our advantage to use your pencil in the future and certainly expect to do so."

"THE samples of drawing pencils which you so kindly sent me were received in due season. They are very satisfactory, as I have known for some time, for I have been addicted to the Dixon habit for over a year."



DIXON'S "ELDORADO". the master drawing pencil - HB

Another American Achievement

This time it is the perfect pencil, a pencil to keep pace with the essential present-day efficiency—a pencil so smooth, so firm and strong, so true to grading, that it makes work easier, quicker and more satisfactory in every business—in every profession.

**DIXON'S
ELDORADO**
"the master drawing pencil"

is the result of exhaustive experimentation and research work. The superiority of this product of American ingenuity has been abundantly attested by hundreds of the leading artists, architects, engineers, banks, accountants, business houses, colleges and schools.

It makes no difference what line of work you are engaged in—if you use a pencil, Dixon's Eldorado *will save you*

effort, time and annoyance. It glides over the paper so easily—the points wear so long without resharpening and they stand unusual pressure. And having found *your* pencil, the next one will be just like it, for the Eldorado is absolutely uniform.

The Eldorado is made in 17 degrees, from 6B (softest) to 9H (hardest). Among them is a perfect pencil for every use.

Send for free full-length samples

Write us on your letter head for free full-length samples stating your favorite degrees (or state the kind of pencil work you do). Then order your further supplies from your stationer.

JOSEPH DIXON CRUCIBLE COMPANY, Department 190-J, Jersey City, N. J.

Graphite

VOL. XX

JULY, 1918

NO. 7

Well known automobile men who use DIXON'S GRAPHITE AUTOMOBILE LUBRICANTS in their cars

Saint Rosta

Milton Mac Bick

Gill Andersen

Harvey Hurnick

Jack L. Bain

Jesse Callahan

Bill Endicott

Eddie Hearn

A. L. Westgard

Dave Lewis

Bob. Evans

Frank & Vukich

Louis F. Niekrent

Art Johnson

A. L. Mathewson

Joe Horan

O. F. Haibe

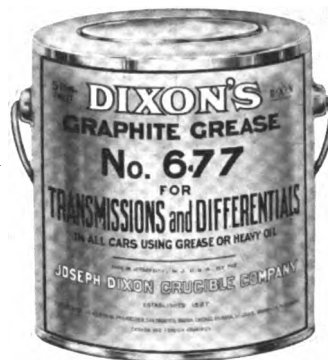
Eugene Sticker

James A. Meyer

Carl A. Limberg

Ray Gilbrook

Pete Henderson



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



DIRECTORS

GEORGE T. SMITH	GEORGE E. LONG
WILLIAM G. BUMSTED	EDWARD L. YOUNG
J. H. SCHERMERHORN	HARRY DAILEY
ROBT. E. JENNINGS	

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GEORGE T. SMITH	President
GEORGE E. LONG	Vice-President
J. H. SCHERMERHORN	Vice-President
HARRY DAILEY	Secretary
WILLIAM KOESTER	Treasurer
ALBERT NORRIS	Ass't Sec'y & Ass't Treas.

PURCHASING AGENT

JOHN I. McCOMB

OFFICES AND SALESROOMS

NEW YORK SALESROOM	68 Reade Street
PHILADELPHIA SALESROOM	1020 Arch Street
SAN FRANCISCO SALESROOM	155 Second Street
CHICAGO OFFICE	1323 to 1327 Monadnock Block
BOSTON OFFICE	347 John Hancock Building
ST. LOUIS OFFICE	501 Victoria Building
BALTIMORE OFFICE	616 Professional Building
BUFFALO OFFICE	409 Erie County Savings Bank Bldg.
ATLANTA OFFICE	225 Peachtree Street

EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queen's Road, Battersea, London

SOUTH AMERICAN AGENTS

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

ALFREDO J. EICHLER, *General Agent*

Agent for Argentine, Uruguay and Paraguay

N. H. Pratt, 185 Paseo Colon, Buenos Aires

Agent for Chile, Peru, Ecuador and Bolivia

Enrique Seller, Calle Huerfanos 761, Santiago, Chile

Agent for Brazil

M. V. Powell, Rua Directa 7, Sala 68, São Paulo, Brazil

CUBAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

William Croft, Room 424 Lonja del Comercio, Havana

PORTO RICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

H. Glyde Gregory, Royal Bank Building, San Juan

LATIN-AMERICAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

National Paper and Type Company, 31-35 Burling Slip, N. Y.

With Branch Houses in Mexico, Cuba, Peru, Argentine, Uruguay, Venezuela, Porto Rico and Colombia

CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

A. R. MacDougall & Co., Ltd., 468 King St., West, Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.

A pencil that makes work a pleasure

Isn't it a satisfaction to get a pencil that really suits you—a pencil of just the right softness or hardness—of just the right tone?

DIXON'S ELDORADO

"the master drawing pencil"

gives you that satisfaction every time. Made in 17 degrees graded to the world's standard—every one uniform and true to grade.

The Eldorado leads are smooth and easy-flowing. They are firm and strong, and do not readily break or quickly wear away.

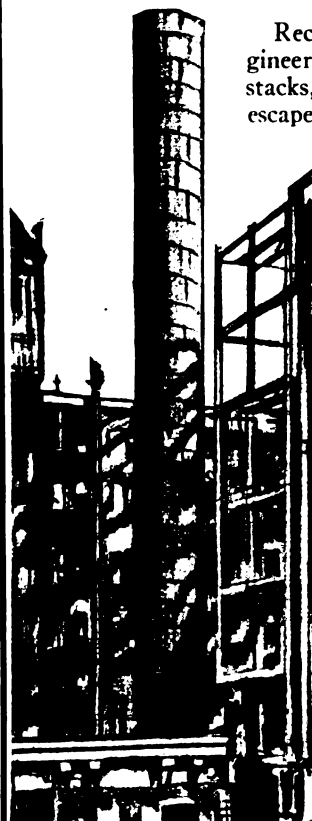
Write us on your letterhead for full-length samples of your favorite degrees and convince yourself of Eldorado quality.

JOSEPH DIXON CRUCIBLE COMPANY

Dept. 190-J, Jersey City, N. J.

Established 1827

Dixon's Silica Graphite Paint



Recommended and used by engineers and others, for smokestacks, boiler fronts, tanks, fire escapes, iron shutters, inner surfaces of steam drums, headers, pipes, sheet, tubes, connecting doors, smoke flues, breechings, etc. Equally suitable for wood surfaces. Made in FIRST QUALITY only for over 50 years.

Pigment: Nature's incomparable mixture of the flake silica-graphite.

Vehicle: Pure boiled linseed oil.

When Dixon's Silica-Graphite Paint is used frequent repainting is obviated.

Write for Booklet 190-B.

Made in JERSEY CITY, N. J., by the

**JOSEPH DIXON
CRUCIBLE CO.**

Established 1827



The Theory of Graphite Lubrication

A Simple Test to Prove It

THE theory of all lubrication is to keep two moving surfaces apart. In theory this is correct, and also correct in practice with this one exception. Any oil or grease will stand weight or stress up to a certain limit, but if unusual weight or stress is placed upon the machine, the oil or grease will squeeze out from between the surfaces and allow the metals to touch.

Metals are never smooth. Under a microscope the most highly polished piece of metal resembles a nutmeg grater. There are little pin points sticking up, pores in the metal, tool marks and other irregularities. When the oil or grease squeezes out these irregularities interlock. This is the cause of "friction." These little pin points also break off. This is termed "wear." Tiny particles of metal get into the lubricant and, returning through the bearing parts, act as an abrasive.

The proper lubricating graphite entirely overcomes this. It first fills in the pores of the metal, after which it places a veneer over the entire wearing surfaces. After the graphite veneer has been secured, friction will have been reduced to the absolute minimum known to mechanics. Not only this, but wear of metals will be prevented for the reason that contact now is between graphite-and-graphite and not metal-and-metal. It is obvious that if metals do not rub together they cannot wear.

To demonstrate, take two small pieces of hard-faced paper. Lay one upon the other and try to

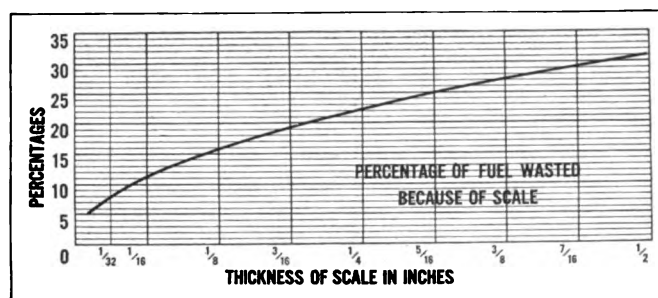
move the top piece over the bottom one by applying weight and force. It is friction that holds the two pieces of paper together. Now take some fine flake graphite and rub a little on each piece of paper, place the graphited surfaces together and do the same as before. You now find that the papers move readily one upon the other.

To show this further, take one piece of paper on the corner of which is no graphite, and rub upon the other graphited piece, rubbing for quite a time and in all directions, so as to work the graphite thoroughly into the paper.

Now look at the paper and you will observe that the graphite has filled in the pores of the paper, after which it has placed a veneer over the entire surface. Rub your thumb over the graphited part and you find that it does not rub off.

Lay the two pieces of paper together and rub as before, placing weight upon it, and you find that the more weight applied,—in other words, the more work flake graphite is given to do,—the easier it moves, and, unlike oil or grease, does not and cannot be squeezed out from the point of contact. In fact, it gathers at the point of contact until it has filled up the pores and irregularities in the paper.

This test illustrates the truth that, irrespective of weight, a film of graphite cannot be squeezed out. In fact, the more weight applied, the firmer it is embedded in the metal and the smoother the surface becomes.



OLD King Coal
Is a jolly old soal,
A jolly old soal is he.
He calls for gra'-phite
To chase boiler scale;
He calls for efficiency.

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A user of Dixon's Waterproof Graphite Grease says, "This is the best we have ever used on runs of elevators." Another says, "This grease is just as represented for plunger elevators."

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What is Graphite?

THE other day we were asked this question, and believing that readers of this publication would be interested in the answer, we are repeating it in detail.

Graphite is one of the three forms in which carbon exists, the three forms being as follows:

First—Substances represented in a general way by coke, lampblack, charcoal, carbon from gas retorts and substances of this type, none of which has a specific gravity above 2.15. They have no unctuous qualities and are all amorphous; that is, have no crystalline structure.

Second—The second form is technically called graphite (or graphitic carbon). It is also commercially known as plumbago or black-lead and is that form having a specific gravity of approximately 2.25. Its peculiar and distinguishing characteristic is that of unctuousness; that is, its extreme smoothness and softness to the touch. This substance is also peculiar in that it exists in both the crystalline and amorphous conditions. The material is either natural or artificial, the artificial form always being amorphous. There is some question as to whether the so-called amorphous forms of natural graphite are really such or whether they have been changed from an earlier crystalline form, but they are practically amorphous for the reason that under any milling operation or pressure they invariably break down to a very fine condition, having no appearance of crystallization. Graphite, on rubbing, produces a high polish, black or dark gray in color.

Third—The third form is the diamond, a transparent crystal of very great hardness, having a specific gravity of about 3.45. It is as different in its physical properties from graphite as two substances can possibly be.

All forms of carbon are practically insoluble in all chemicals, but are consumed in the presence of oxygen at high temperatures.

The Oil Vehicle

IT is increasingly difficult to secure linseed oil, though the vehicle in Dixon's Silica-Graphite Paint continues, as in the past fifty years or more, to be pure boiled linseed oil, which is the best, most elastic and longest lasting pigment vehicle.

G. B. Heckel, Secretary of the Paint Manufacturers' Association of the United States, notifies paint manufacturers that the War Service Committee of that association is investigating the merits of fish and other oils and liquids as substitutes for linseed oil. He advises that for certain purposes a substitute can be used, but deprecates deceiving customers as to what vehicle is used.

Rust costs more than painting. Painting costs more than paint. Save the wasting of labor by using Dixon's Silica-Graphite Paint, the longest lasting paint, pure boiled linseed oil only being guaranteed as the Dixon vehicle.

An Increase of Over 100% in Sales of Dixon's Graphite Automobile Lubricants

WE have received a letter from Kilmer and Sons Co., Spokane, Washington, in which they state their sales of Dixon's Graphite Automobile Lubricants have been increased over 100% last year.

This they attribute to the high quality of the product.

Below are two paragraphs from their letter that it pleases us to reproduce here.

"During the past year we have increased our sales on Dixon's Graphite Automobile Lubricants over one hundred per cent. We attribute our success with this line to the quality of Dixon's products.

"We find that once a customer uses Dixon's Graphite Lubricants, he invariably comes back with repeat orders. We have yet to receive a complaint on your lubricants."

Other dealers have written us along similar lines, stating what they think of Dixon's Graphite Automobile Lubricants, and these letters have been compiled into a new booklet entitled, "Evidence." A copy will be sent to those so requesting Dept. 190-G and asking for "Evidence."

This booklet will show you why Dixon's Graphite Automobile Lubricants are sold by nearly all progressive dealers throughout the country.

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"Dixon's Waterproof Graphite Grease is perfect for plunger elevators. We also find Dixon's Flake Graphite for cylinders a perfect lubricant and an oil saver."—*Equitable Building, Boston, Mass.*

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Coal is King!

NATIONAL stress emphasizes more than ever before the necessity of conserving coal. It must not be wasted.

You would not think of deliberately throwing away shovelfuls of coal, but that is what really happens when heating surfaces are so fouled that a large portion of the heat goes up the stack. That's why we want you to know about Dixon's Pioneer Boiler Graphite.

Boiler scale is a poor conductor of heat and prevents a free interchange of heat, just as do the pipe coverings on your steam lines.

Its presence can oftentimes cause a fuel waste of 20% or more. Dixon's Pioneer Boiler Graphite, properly used, will keep your boilers free from scale and put the cost of the wasted coal back into the treasury.

It goes about its business in a practical way, as no chemical reactions are involved. The principle of its action and other interesting data are contained in a booklet No. 190-T.

The use of Dixon's Pioneer Boiler Graphite means: fuel economy, fewer shut-downs, decreased cleaning expense and greater steam capacity.

Write for booklet No. 190-T if you are interested in fuel conservation.

A Testimonial for C. C. & G.

WE are glad indeed to receive and reproduce such letters as the one given below from the Prier Brass Manufacturing Co., Kansas City, Mo.

"We take this opportunity of expressing our entire satisfaction with the merits and lasting qualities of your Crucible Clay and Graphite mixture for furnace lining. We are certainly pleased to advise that we have been using this C. C. & G. mixture in relining our brass melting furnaces for the past 10 or 12 years and have found it satisfactory in every respect and have never experienced the least trouble.

"During this time we have tried out other similar cements and mixtures and have found nothing that fills the bill nearly as well as yours. It gives us pleasure to recommend your C. C. & G. mixture and trust that your many other customers are obtaining equally as good results with this mixture.

"PRIER BRASS MFG. COMPANY."

There is nothing better for relining and patching furnaces than Dixon's Crucible Clay and Graphite Compound (also called Furnace Cement).

It is a highly refractory cement that successfully withstands great heat, resists wear and tear and postpones the day of buying new firebrick.

It will prevent delays and save expensive repairs.

Write for literature 190-V telling more about this compound.

The Dealer and the Consumer

THERE is only one person who can put your goods on the dealer's shelves: the dealer. There is only one person who can take them off: the consumer.

You cannot expect the dealer to know about your goods unless you interest him through your salesmen and get his attention through your advertising.

You cannot expect the dealer to do advertising for you, and you can't expect the consumer to ask the dealer for information, even if the dealer is able to give it.

You must advertise for the dealer and you must advertise for the consumer.

Generally speaking, you can reach the consumer only through advertising.

You cannot expect to get his attention through your salesmen unless he happens to be a big consumer.

For the dealer you should make use of high grade and forceful advertising, and you should visit him through high grade, forceful and intelligent salesmen.



We Lose Mr. Weidner

MADISON E. WEIDNER, who was born in Mulberry, Clinton County, Indiana, March 17, 1880, died suddenly May 23, 1918. Mr. Weidner entered the employment of the Dixon Company January 1, 1905, and was a most valuable man in his position as electrician and expert in the manufacture of graphite resistance rods and graphite brushes.

He was named after Madison C. Peters, the well-known pastor and lecturer, who was pastor of the Mulberry Reformed Church at the time of Mr. Weidner's birth.

After graduating from the Public School in Mulberry, Mr. Weidner entered the Frankfort High School, and later on entered Purdue University, Lafayette, Ind., whence he graduated with the degree of electrical engineer. Throughout his life Mr. Weidner was known for his sunny and kindly disposition, his unfailing courtesy, his studious habits, and his keen sense of duty and the performance thereof.

The Dixon Company valued his services, deeply regrets his loss, and extends its heartfelt sympathy to the wife and three children he leaves behind him, as well as to the other members of his family.

Whisky vs. Pencils

THE editor of the *Sydney Daily Telegraph*, Australia, has received a rather interesting letter from Mr. William Lewis, a dealer in stationery, who is well known to the Dixon Company.

Mr. Lewis in his letter to the editor makes a statement that prohibition is now in force in Canada, but that the Canadian distillers have found a ready market and a complaisant government in Australia. He writes: "The last American mail steamer carried, as a portion of her cargo, 700 barrels of Canadian whisky. This has since passed the customs, and is ready for Australian consumption."

Mr. Lewis then asks if the authorities at Melbourne issued priority certificates for such shipment, and, if so, on what grounds.

He further wants to know if whisky can be considered an essential. Mr. Lewis has no desire to air his personal

business difficulties, but it so happens that he had placed an order some months before for a quantity of pencils for use in the schools. In reply to his cabled inquiries he was told: "Goods ready to ship, but no opportunity."

Mr. Lewis says that it appears to him that in the opinion of the Government, the children must manage to get along without pencils, but father must have his whisky."

A Twenty-Year Paint User

WE are proud to quote the following testimonial from the Claflin Machinery Company, Waterville, Maine.

"It occurred to me you would be interested in the remarkable results we have secured for the last twenty years with Dixon's Silica-Graphite Paint. We have used this paint on our own work, including boilers, tanks, smokestacks and other ironwork. We have recently seen some boilers painted with Dixon's Silica-Graphite Paint thirteen years ago. The paint stood the severe test remarkably well.

"As we sell a great number of boilers, both new and used, we want a clean surface on used as well as new boilers and take Dixon's Silica-Graphite Paint, black, which is decidedly the best paint made for this purpose for interior work on tubes as well as exterior work.

"We recommend Dixon's Silica-Graphite Paint as the cheapest paint on the market, not alone on account of its great covering capacity and the ease with which it can be applied, but on account of its lasting or wearing qualities which save the expense of frequent repainting.

"We strongly recommend Dixon's Silica-Graphite Paint to any one needing a first-class paint at an economical price.

"Please find enclosed order for another supply.

"CLAFLIN MACHINERY CO.,

"Mark T. Claflin, Mechanical Engineer."

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A user of Dixon's Graphite Brushes says, "They are just what we have been looking for and we recommend them to any one looking for a perfect running brush."

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We Had Better Think Again

THE Executive Committee of the Association of National Advertisers tells us that if we have the idea that after we have won the war we can rely entirely upon domestic trade, we had better think again.

To increase our sales and to make a larger profit without a proportionate increase and overhead charge, it is not sufficient that we should have capable salesmen. It is absolutely necessary that we should have factory facilities and the ability to make prompt shipments, whether the business is domestic or foreign.

Apart from the fact that American business will be unable to resist the pull of new international relations, we will have to face a tremendous national debt, and meet interest and tax requirements.

The only way in which we can meet these requirements will be with the help of great export business, backed by factory capacity and salesmen of ability.

Many manufacturing concerns in the United States have, during the past two years, considered it far wiser to add to

their manufacturing facilities rather than to pay back dividends and taxes on excess profits.

It is not sufficient to wait until after the war, or until we can see a glimmer of peace, to begin to attend to export matters. The time is now. The main purpose of German propaganda in foreign lands is commercial more than political, and Germany is not alone in this propaganda.

The Executive Committee further tells us that it is a fact that a very large proportion of all the cost of Germany's propaganda is paid for by the Hamburg Chamber of Commerce. In other words, it is not the Government but the manufacturers and exporters who are looking and preparing for foreign business after the war.



Mr. J. H. Amory

MR. J. H. AMORY has succeeded Mr. A. G. Thomson, who has resigned from the Automobile Lubricants Sales Department.

Mr. Thomson for a number of years represented the Dixon Company as salesman in general lines and of late years as specialist in graphite automobile lubricants.

Mr. Amory has been representing the Dixon Company for several years. Lately he has been a special representative in New England for Dixon's Graphite Automobile Lubricants. We all wish Mr. Amory success and know that the selling of Dixon's Graphite Automobile Lubricants will continue according to formulated plans.

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THINK big, talk little, love much, laugh easily, work hard, give freely, pay cash, and be kind. It is enough.—Topics.



Red Cross Work

DURING the late drive for the \$100,000,000 for the Red Cross, the Dixon Company, from office to office boys, have been hard at work by day and by night.

The young women of the Dixon Company willingly and gladly gave their time and strength to the arduous and sometimes disagreeable work. It was said of them, and of other young women working for the cause, that the most striking fact was the abundant courtesy, good humor, and easy dignity with which they went about their duties.

Such work is exceedingly hard. Even the supreme excellence of the cause to which they devoted their energy, did not eliminate from the personal appeal for money all of its unpleasantness.

A large proportion of the women whom we see on the streets, in the restaurants, in railroad stations, in shops and in public places laboring for success in the war are unaccustomed to the publicity their patriotism imposes on them, and sensitive to rebuffs; yet they preserve a cheerfulness that is amazing. They come from the privacy of their homes, from the ordered routine of their offices and shops, many of them tired from their regular employments.

They do their self-assumed tasks with an enthusiasm and devotion that are refreshing and inspiring.

The Dixon Company takes advantage of this opportunity to salute all such workers with admiration, respect and affection.

Here is what a large department store in Boston says about Dixon's Waterproof Graphite Grease: "We have tried all other greases on our plunger elevators, but Dixon's is the best we have ever used. We also use Dixon's Graphite Brushes and they are the only ones we will ever use, as they work with great satisfaction."

Business After the War

MR. RANDOLPH WHITMAN tells us that:

"The industrial war isn't going to be fought on a battlefield 3000 miles away.

"It's going to be just as bitter and probably more intense and bigger than the big war.

"And it's almost certain to last longer—much longer.

"This time, we—the United States and every man in it—will be forced to fight for what we have won in the way of commercial possessions, and what we had before the war started.

"Every modern weapon of business will be brought to the front."

"We will find many of them out-of-date and useless because the American way of doing business seems to be based on the principle that it's easier to make a new dollar than to save an old one."

In the little pamphlet from which the above quotations are taken, Mr. Whitman gives a whole lot more information that is very interesting.

Any communication addressed to Mr. Randolph Whitman of 15 East 40th Street, New York, will probably bring quick reply.

MAKE good. Don't explain. Do the thing you are expected to do. Don't waste time in giving reasons why you didn't or couldn't or wouldn't or shouldn't.—*Safety Hints.*

THE successful man is always busy whether he feels like it or not. Any man can work when he feels like it.—*The Conveyor.*



Spies and Lies

German agents are everywhere, eager to gather scraps of news about our men, our ships, our munitions. It is still possible to get such information through to Germany, where thousands of these fragments—often individually harmless—are patiently pieced together into a whole which spells death to American soldiers and danger to American homes.

But while the enemy is most industrious in trying to collect information, and his systems elaborate, he is *not* superhuman—indeed he is often very stupid, and would fail to get what he wants were it not deliberately handed to him by the carelessness of loyal Americans.

Do not discuss in public, or with strangers, any news of troop and transport movements, of bits of gossip as to our military preparations, which come into your possession.

Do not permit your friends in service to tell you—or write you—"inside" facts about where they are, what they are doing and seeing.

Do not become a tool of the Hun by passing on the malicious, disheartening rumors which he so eagerly sows. Remember he asks no better service than to have you spread his lies of disasters to our soldiers and sailors, gross scandals in the Red Cross, cruelties, neglect and wholesale executions in our camps, drunkenness and vice in the Expeditionary Force, and other tales certain to disturb American patriots and to bring anxiety and grief to American parents.

And do not wait until you catch someone putting a bomb under a factory. Report the man who spreads pessimistic stories, divulges—or seeks—confidential military information, cries for peace, or belittles our efforts to win the war.

Send the names of such persons, even if they are in uniform, to the Department of Justice, Washington. Give all the details you can, with names of witnesses if possible—show the Hun that we can beat him at his own game of collecting scattered information and putting it to work. The fact that you made the report will not become public.

You are in contact with the enemy *today*, just as truly as if you faced him across No Man's Land. In your hands are two powerful weapons with which to meet him—discretion and vigilance. *Use them.*

COMMITTEE ON PUBLIC INFORMATION
8 JACKSON PLACE, WASHINGTON, D. C.

*George Creel, Chairman
The Secretary of State
The Secretary of War
The Secretary of the Navy*

Contributed through Division of Advertising



United States Gov't Comm. on Public Information

This space contributed for the Winning of the War by

JOSEPH DIXON CRUCIBLE COMPANY, Jersey City, N. J., U. S. A.

Johnson Dry Graphite Lubricator



THE Johnson Lubricator has at last solved the problem of dry flake graphite lubrication by placing it at the proper place in any desired quantity, and doing so automatically by a *needle valve feed* which cannot become "plugged up."

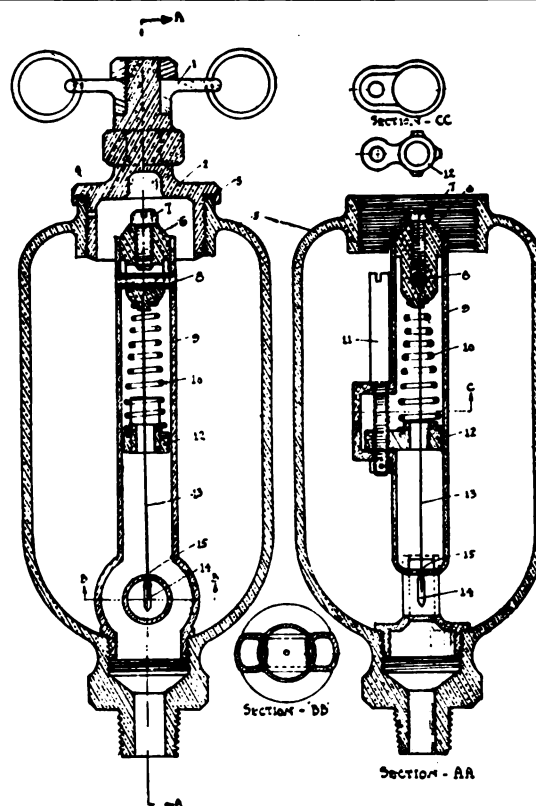
This cup will operate under any conditions and has only to be regulated when installed. It is attached to the main steam line near throttle valve or can be attached to steam chest over main valve. It is intended to feed Dixon's Flake Graphite No. 1.

By the following please note simplicity of operation:

The steam being turned on, lubricator fills interior space with steam equal in pressure to the main steam line.

When the engine takes steam at the end of each stroke, pressure drops slightly in the main steam line, also in the pipe connecting the bottom of lubricator, which in turn is connected to the under side of piston No. 6 by casing No. 9.

The steam pressure in the interior of lubricator expands, forcing piston No. 6 down, which moves wedge-shaped needle No. 14, opening small hole No. 15, allowing a small quantity of graphite to be forced out into main steam line; when the engine or pump has ceased to take steam, the pressure in the main steam line accumulates to its original pressure and fills interior of lubricator with steam through casing No. 9 past piston No. 6, which is not steam-tight, forcing piston No. 6 up, closing small feed hole No. 15. The spring No. 10 assists piston No. 6 on its return stroke, and when more than one engine or pump is running from the same steam main retards piston No. 6 so it will operate only on the impulse of the engine that the lubricator is attached to. This spring should be adjusted when lubricator



OPERATING PARTS

- | | |
|---|---|
| 1—Handle. | 9—Piston Casing open to steam feed pipe. |
| 2—Filler Plug to be removed for filling Lubricator. | 10—Spring to move Piston "6" up against Pin "8." |
| 3—Lead Gasket to make filler plug tight. | 11—Set screw to take up tension on Spring "10." |
| 4—Steam outlet while removing filler plug. | 12—Spring rest. |
| 5—Lubricator casing for holding Graphite. | 13—Stiff rod connecting Piston "6" with Plug "14." |
| 6—Piston for operating Plug "14." | 14—Plug for opening and closing "15." |
| 7—Adjusting Screw to set movement of Piston "6." | 15—Passage for graphite from Lubricator Casing "5" to steam feed pipe through Casing "9." |
| 8—Pin through Piston "6" and Casing "9." | |

is first installed by screwing either up or down on regulating screw No. 11, after which its adjustment is permanent.

On locomotives, compressors, gas engines, and Diesel type of engines, they operate equally well.

These cups are being placed on the market on 30 days' trial to responsible concerns and are making good in numerous plants.

JOHNSON LUBRICATOR CO., 30 Church Street, New York, are marketing this device.

The Copley Square Hotel, Boston, uses Dixon's Graphite Brushes and says they have saved a great deal of commutator trouble and are the best brushes they have ever used.

"Dixon's Waterproof Graphite Grease is the best we have ever used for plunger elevators."—*Blake Building, Boston, Mass.*

THE human salesman's personality and training count hugely in the business world. By the same standards the printed salesman must be judged.—*The Proof.*

Gas Engine Lubrication

THE perfect lubricant for gas engines should either be consumed entirely in the cylinder or not at all. An eminent authority on gas engine cylinder lubrication after many experiments found that the lubricant that was not consumed at all retained its full lubricating value as long as it remained in the cylinder. On the other hand, the lubricant that is only partially consumed leaves a carbon deposit, while the lubricant that is entirely consumed leaves the cylinder dry.

Flake Motor Graphite meets the requirements fully because the intense heat encountered in the cylinder has no disintegrating effect whatever on graphite. There are a number of devices that are made for feeding motor graphite to engine cylinders.

WE are told that a Frenchman is the politest man on earth. If you go into his place of business and ask him how to get to some certain street and number, he closes down his desk, calls a taxi, stops on the way to buy a drink of *vin ordinaire*, and delivers you personally right outside the door, and then begs pardon for not getting you there sooner.

Captains of Industry

TRULY, as Gibbon says: "The winds and waves are on the side of the ablest navigators." The winds and the waves recognize ability only—the ability to know them, to master them.

Fortune and success are as truly on the side of those who know their particular lines of business better than others who attempt to sail the same commercial seas.

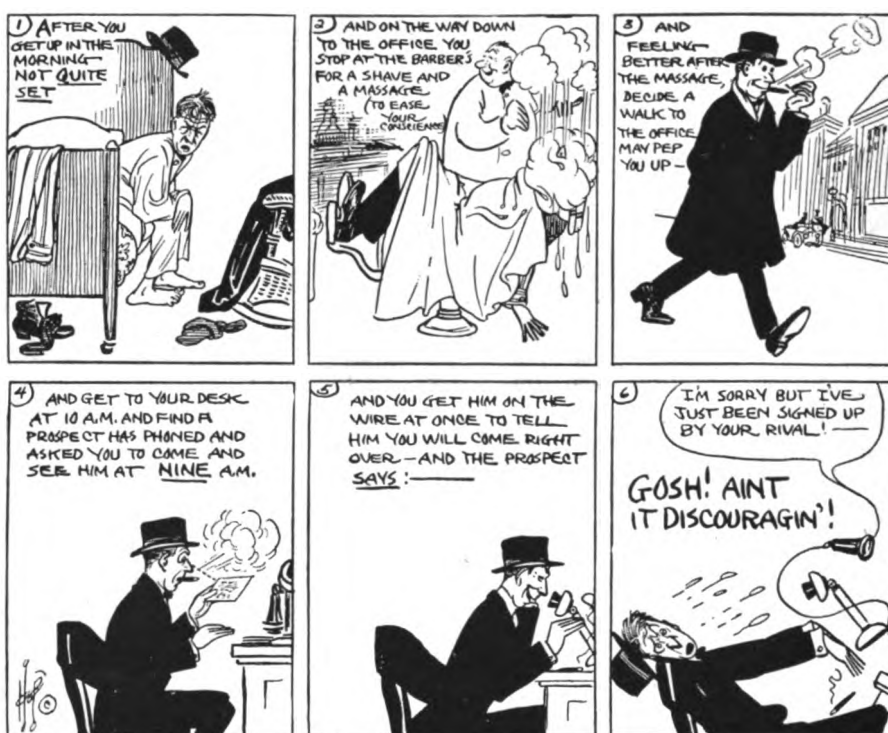
The Carnegies, Schwabs, Fricks, Huntingtons, Hills, Edisons, Marconis, Rockefellers, and others, are types of able navigators. They thor-

oughly knew and thoroughly understood their ships and the seas they sailed. Such men may well be termed Captains of Industry, and those who sailed with them and prospered with them have acknowledged the mastery of their captains.

Books to Read

D. R. HENRY SNYDER, Superintendent of Public Schools, Jersey City, N. J., in a talk before the Graphite Club, recommended the following for the young men to read:

Ain't It Discouragin'?—Hopkins



- (a) Chapter 10 of James's "Psychology" (On Habit).
- (b) Lord Rosebery's "Last Days of Napoleon" (Chapter on Supreme Rights).
- (c) Chapter 12 of Lecky's "Map of Life."
- (d) Chapter 7 of Carlyle's "Sartor Resartus."
- (e) Chapters 6, 7 and 8 of Franklin's "Autobiography."
- (f) Emerson's "Compensation" and "Self-Reliance."
- (g) Chapter 9 of Haeckel's "The Wonders of Life."
- (h) Chapters on Science and Religion in Haeckel's "Riddles of the Universe."

Graphite for Boiler Scale

A VERY finely powdered graphite, says the *British Clay Worker*, placed in a boiler immediately after it has been cleaned circulates with the water and rubs against the steel, to which it imparts a graphite polish on which scale does not readily form. When the initial quantity is regularly followed up by smaller ones, the graphite by mechanical motion gradually softens and disintegrates any old scale that may still be present, and if new scale thereafter forms—and it always will to some extent—it mixes with that scale so that all may be easily broken up and removed. Inferior grades cannot with safety be allowed in steam boilers.—M., in the *Journal of Industrial and Engineering Chemistry*.

AUTHORITIES agree that pig iron contains flake graphite and also state, "Pig iron rusts very little," and say further: "There is nothing mysterious about this because the slag and graphite in pig iron respectively protect the underlying iron from corrosion," explaining further that "as soon as

the first slag binder is penetrated another barrier is almost immediately encountered, and so on, with the result that an increasing number of barriers gradually combine more and more effectively to keep out corrosive agents."

"Cabinet No. 23" Kans the Kaiser

MARGERY WILSON, recently starred in "The Flames of Chance," tells the following story. Her director handed her a pencil on which was printed in gold letters, "Dixon's Cabinet No. 2." Margery suggested that the wording be changed to "President Wilson's Cabinet No. 23," and that the pencil be sent to the Kaiser.

—Telegram.

Jack Lewis Wins "Woodrow Wilson" Golf Ball

MR. JACK LEWIS of Atlanta, Georgia, and District Representative in that territory of this Company, won at a Red Cross raffle there the famous autographed "Woodrow Wilson" golf ball.

The ball has been given by Mr. Lewis to the Atlanta Committee for raising funds for the fatherless children of France and he will raffle the ball off himself.

Mr. Lewis has also been elected president of the North Carolina Society of Atlanta. The election of Mr. Lewis is assurance that the Society will develop into one of Atlanta's most active bodies.

Smoking of Automobiles Prevented by the Use of Flake Graphite

A GREAT many motorists wonder why graphite used in the crank case will eliminate the smoke nuisance. The explanation is said to be that smoking is caused by an excessive amount of oil getting by the piston rings into the explosive chamber, where it is burnt. By the use of graphite mixed in small proportions in the crank case, about a teaspoonful to the gallon of oil, the graphite fills in the pores in the metal and finally places a veneer over the entire surface, increasing the compression, and by so doing prevents an excessive amount of oil getting by into the explosive chamber.—*American Motorist*.

Dehydration

ACCORDING to the *Economist*, the matter of producing and conserving large quantities of food in the present emergency has resulted in the invention by some Chicago men of a process of curing vegetables, fruits, meats and fish at a much lower cost than any method heretofore devised for either dehydrating or canning food products. When cooked, these products cannot be distinguished from the strictly fresh, either as to color, flavor or food value; besides which, they will keep indefinitely in any climate and occupy only 25 per cent. of the space and weigh one quarter as much as fresh products, which are important elements in transportation.—*Standard Daily Trade Service*.

GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

A merchant says:

"WE have tried the samples of ELDORADO pencils sent us recently and are well pleased with them."

From engineers:

"THE sample pencils were entirely satisfactory. Will use them in this office."

"REPLYING to your letter of — would state your pencils have given us the very best satisfaction and we will specify them in our next order."

"WE are in receipt of your letter of recent date and beg to advise that we have been using your ELDORADO pencils exclusively for some time past and have found them very satisfactory."

A bookkeeper writes:

"YOUR letter of the — to hand and am glad to say that I received the ELDORADO pencils all O.K. and find them perfectly satisfactory in my work. I only use them upon my ledgers for footings and find that it will not rub nor fade. Find the 4H the best for our use."

Several architects write:

"THE samples of your ELDORADO pencil sent me some time ago were very satisfactory and I shall continue to use the ELDORADO for my work in future."

"WE have your letter of the — inst. with reference to the samples recently sent us, and beg to advise that we always specify ELDORADO pencils."

"THE pencils are O.K. They work very nice and smooth. I am using them at this time."

"I LIKED the samples of ELDORADO drawing pencils left by one of your representatives a short time ago. The lead in them 'flows' very, very nicely."

From the art world:

"THANKS very much for the three samples of your wonderful lead pencils. I shall ask for them when I want pencils again, now that I have tried them. This 4B draws beautifully. This 2B also is a wonder and can do things 4B can't. This hard HB is fine for signing etchings and fine lines. But 4B is going to be my favorite for sketching."

"THESE are excellent pencils. Thank you for sending them. Will use ELDORADO pencils in the future."

An auditing firm writes:

"ANSWERING yours of the — inst., will say that we received your samples and were very much pleased with them. We find the lead especially hard and clean. You may rest assured that we will recommend your pencils at every opportunity."

A business house writes:

"THE samples of your ELDORADO pencils sent some time ago have been received and tested. They are a very fine pencil. I have placed a trial order for two gross in the hands of our supply house. Thanking you for your attention," etc.

From a fire insurance company:

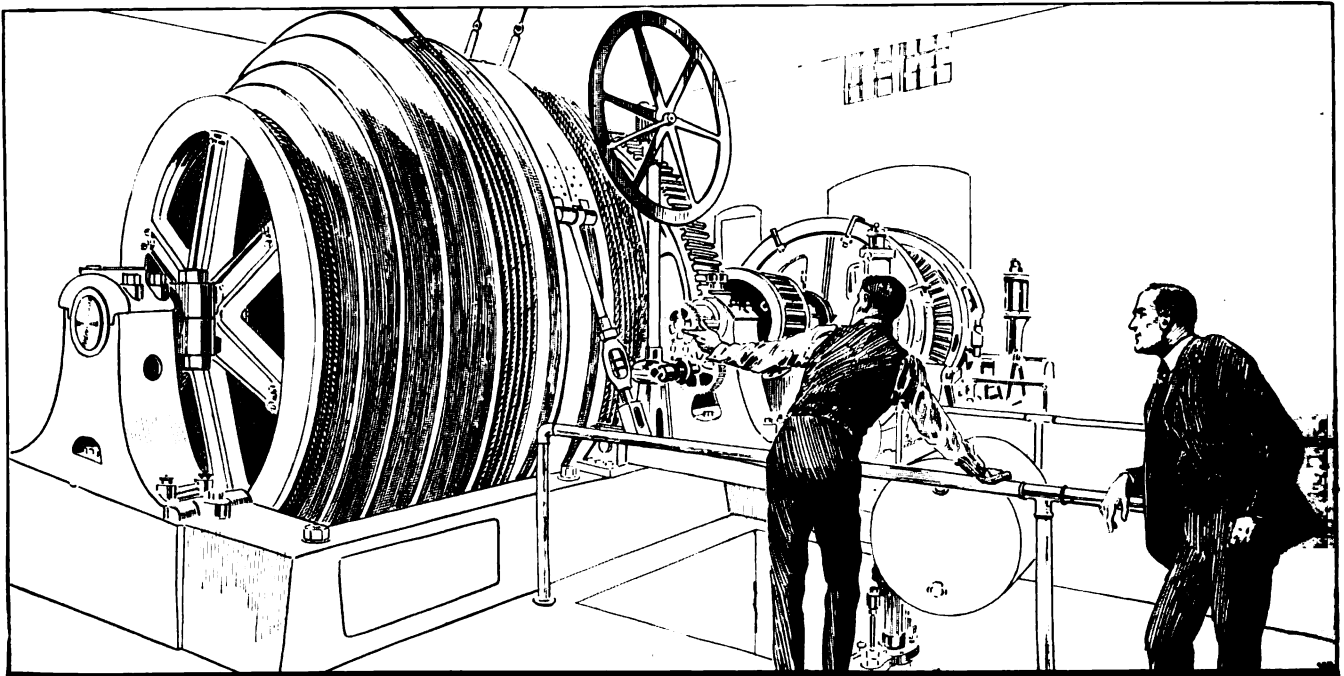
"YOUR kind favor of the — inst., enclosing samples of the pencil manufactured by your good firm, particularly adapted to mapping purposes in fire-insurance offices, at hand, and we take pleasure in submitting our special thanks in this case, giving us as it does the opportunity of confirming a previously well established belief that the exact pencil which you recommend is the best for the purpose in the market, and, in fact, is in daily use in this office."

A photographer says:

"PLEASE accept my thanks for the sample ELDORADO pencils received. I am sure they are superior to any I have used. For the special work I have at hand they are entirely satisfactory. Please accept my sincere thanks and rest assured I shall not use any other make as long as I can obtain your pencils. Please send me a catalog of your different products."

A draftsman says:

"WE thank you for the specimen pencils which you were kind enough to send us. They were very satisfactory in every way. We shall be glad to specify the name ELDORADO when we have occasion to renew our supplies."



“Making the Hoist Cable Last Longer”

“I am doing it here,” asserted the Chief.

“Everyone knows that a hoist cable is subjected to severe service. But with proper care it’ll stand the gaff as well as can be expected.

“The secret of its preservation is proper lubrication. Corrosion and wear should be prevented absolutely if possible. Dixon’s Waterproof Graphite Grease does that here. I’ve never used anything that’s equal to it. It not only lubricates perfectly right through to the center of the cables, but it also prevents any tendency to rust. I understand that this same grease is not even affected by acid or alkaline waters or corroding atmospheric conditions, and for that reason is a great favorite with mine engineers.”

“This cable certainly appears to be in first-class condition,” the G. M. agreed.

Complete information about Dixon’s Waterproof Graphite Grease is contained in Booklet 190-W. Write for it.

Made in JERSEY CITY, N. J., by the

Joseph Dixon Crucible Company



Established 1827



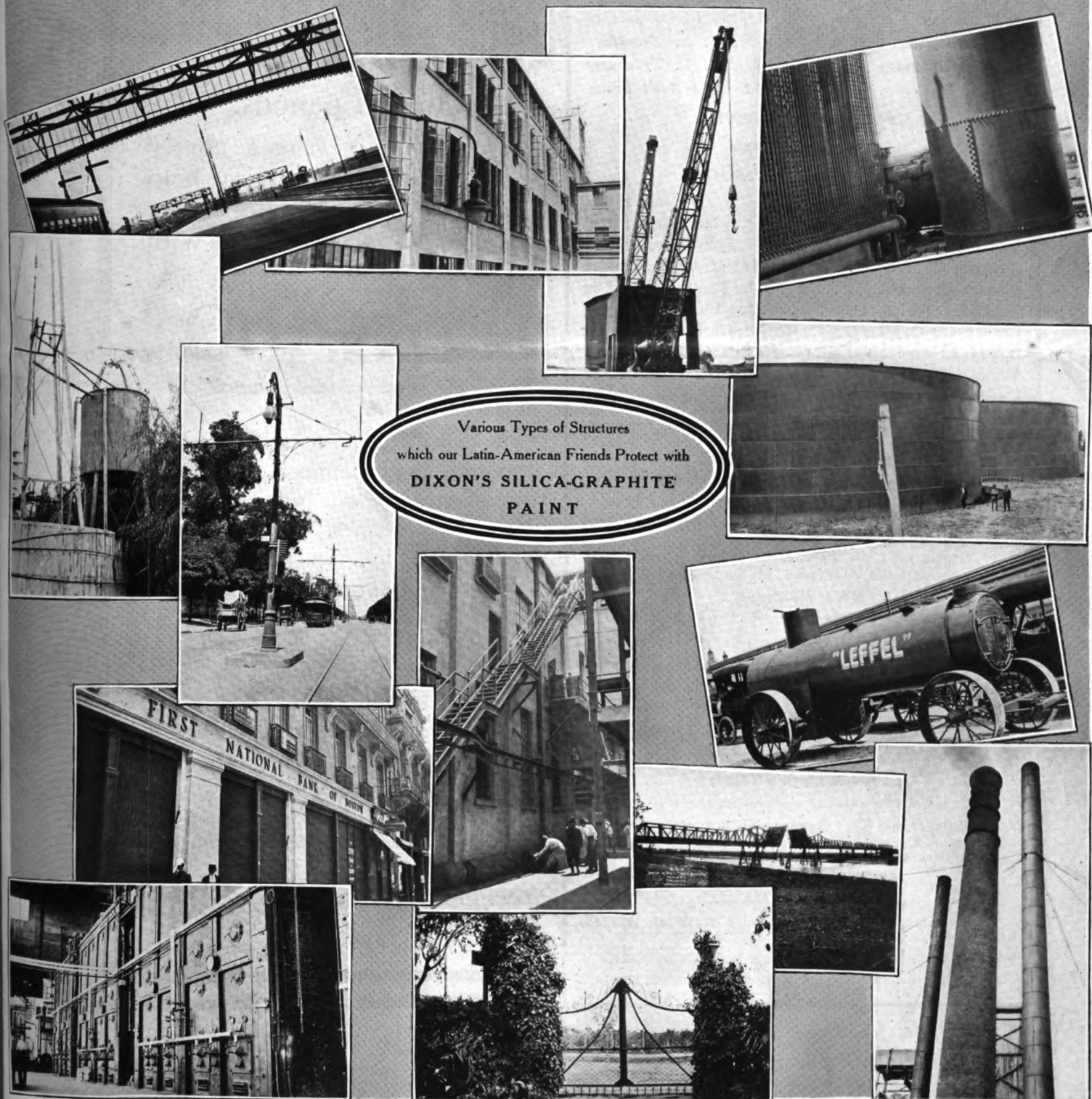
THE DE VINNE PRESS
NEW YORK

Graphite

VOL. XX

AUGUST, 1918

No. 8



Various Types of Structures
which our Latin-American Friends Protect with
DIXON'S SILICA-GRAPHITE
PAINT

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1888

**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**

DIRECTORS

GEORGE T. SMITH GEORGE E. LONG
WILLIAM G. BUMSTED EDWARD L. YOUNG
J. H. SCHERMERHORN HARRY DAILEY
ROBT. E. JENNINGS

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GEORGE E. LONG Vice-President
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ST. LOUIS OFFICE 501 Victoria Building
BALTIMORE OFFICE 616 Professional Building
BUFFALO OFFICE, 409 Erie County Savings Bank Bldg.
ATLANTA OFFICE 225 Peachtree Street

EUROPEAN AGENTS

Graphite Products, Ltd., 918-920 Queen's Road, Battersea, London

SOUTH AMERICAN AGENTS

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

ALFREDO J. EICHLER, *General Agent*

Agent for Argentine, Uruguay and Paraguay

N. H. Pratt, 185 Paseo Colon, Buenos Aires

Agent for Chile, Peru, Ecuador and Bolivia

Enrique Seller, Calle Huerfanos 761, Santiago, Chile

Agent for Brazil

M. V. Powell, Rua Directa 7, Sala 68, São Paulo, Brazil

CUBAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

William Croft, Room 424 Lonja del Comercio, Havana

PORTO RICAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

H. Glyde Gregory, Royal Bank Building, San Juan

LATIN-AMERICAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

National Paper and Type Company, 31-35 Burling Slip, N. Y.

*With Branch Houses in Mexico, Cuba, Peru, Argentine,
Uruguay, Venezuela, Porto Rico and Colombia*

CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

A. R. MacDougall & Co., Ltd., 468 King St., West, Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.

Stop those leaks with a pencil!

Business is booming. Workers are scarce. Yet there's Jones and Martin and Edwards and Miss Cook—everyone stopping work far too often to re-sharpen lead pencils.

You can stop these costly leaks and at the same time help your employees to do better work by supplying them with

**DIXON'S
ELDORADO**
"the master drawing pencil"

—the pencil of efficiency. The strong, firm leads eliminate much of that constant sharpening and, because of their unusual smoothness, enable you to work more quickly and with a noticeable saving of effort. Made in 17 degrees, each true to grade.

Send for samples

Send 16 cents in stamps for full-length samples worth double the money. Try them out to your own satisfaction. Then order the Eldorado from your regular dealer. Specify degrees used.

JOSEPH DIXON CRUCIBLE CO.

Dept. 190-J, Jersey City, N. J.





Vol. XX

AUGUST, 1918

No. 8

THE Dutch Boy Painter, house organ of the National Lead Company, contains some very interesting information, under the above title, in regard to linseed oil.

Adulteration of Linseed Oil

"Rosin oil is sometimes used as an adulterant of linseed oil. Its use in paint is not desirable because it has a tendency to dry slowly and sticky, gradually becoming dirty

from the absorption of dust. It says: "The present high prices of linseed oil have brought on the market many adulterated oils. The law in all the States recognizes such adulteration as particularly offensive because of the fact that not only does the adulteration cheat the consumer out of the few cents he loses on the oil, but robs him of the many dollars which he loses on account of the failure of the job to satisfy.

"Accordingly there have been many convictions among unscrupulous manufacturers and dealers for selling adulterated oil as pure linseed oil.

"The main reason for the supremacy of linseed oil as a paint vehicle, a reason which should be well understood by all painters, is its property of gradually drying into an insoluble, tough, elastic film when exposed to air.

"Poppy oil is the only other oil which so perfectly answers the purposes of a paint vehicle. Owing to its great expense, however, poppy oil does not compete with linseed oil, its use being confined to artists, for fine oil paintings.

"Among the common adulterants of linseed oil are fish oil, corn oil, and cottonseed oil. These are known as non-drying oils. Fish oil, which is made from the menhaden or porgy, responds in a limited degree to driers.

"Corn oil, besides being non-drying, also stays greasy, which makes it unsuitable for paint. Soybean oil has some qualities that might make it a proper substitute for linseed oil, but it lacks the most important qualification of a perfect paint vehicle in that it does not dry tough and elastic.

from the absorption of dust.

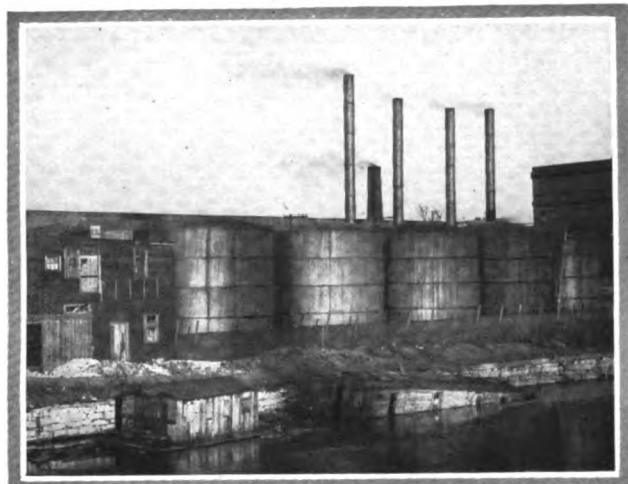
"On account of their low cost, kerosene and benzine are sometimes added to linseed oil by painters to cheapen the paint and make it work easier. Both of these oils evaporate quickly and cut down the binding power of the linseed oil.

"Linseed oil containing from 5 to 7 per cent. of kerosene has been sold as pure linseed oil. Benzine is rarely used as an adulterant by manufacturers, however, but is sometimes added by the painter.

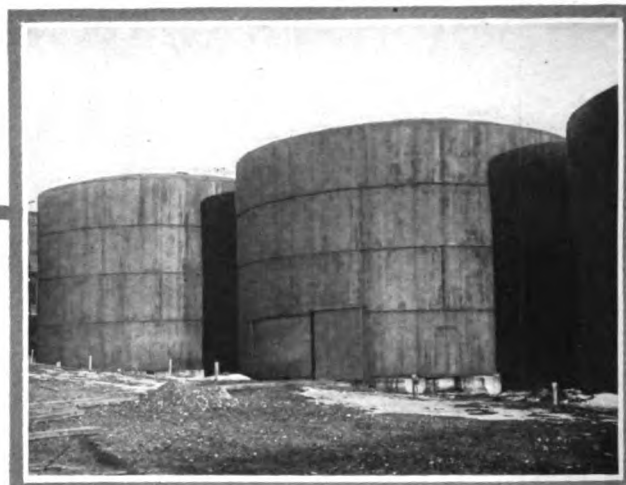
"Adulteration is difficult to detect, there being no simple and absolute test. The presence of fish oil, and generally rosin oil, can be detected by the rank odor. Corn oil, while possessing a characteristic odor, cannot always be so detected unless a large amount of it has been used. Pure linseed oil, when rubbed briskly in the palms of the hands, has the pleasant aroma of flaxseed.

"If a few drops of linseed oil are placed on a black painted surface and a bluish or iridescent tinge or cast appears about the edge, such as kerosene presents, the presence of petroleum oil is indicated. Kerosene and benzine can often be detected by their odor also."

It is because of the recognized adulteration of linseed oil, that the Dixon Company has hesitated to sell its Silica-Graphite Paint in paste form. Those who want the longest time of protection for exposed surfaces, should purchase paints that are ready mixed and branded by well known manufacturers—manufacturers who have established reputations for high quality goods.



Oil Tanks,
Wood Products
Co., Buffalo,
N. Y.



Oil Tanks,
Wood Products
Co., Buffalo,
N. Y.

WE are proud to reproduce the following letter from Mr. N. M. Pierce, Vice-President of the Wood Products Company, a subsidiary of the United States Industrial Alcohol Company. This letter speaks for itself regarding the battle service of Dixon's Silica-Graphite Paint, a certified protective paint made for over fifty years in one guaranteed quality—the BEST.

"WOOD PRODUCTS COMPANY,
Buffalo, N. Y.

"Regarding the service of Dixon's Silica-Graphite Paint on our tank cars and tanks shown in these photographs.

"While the paint on the oil tanks looks rather weather-beaten, you must bear in mind that it was applied five years ago this spring, whereas similar tanks that were painted by us experimentally with a competitive paint lasted only two years.

"Dixon's Paint on our tank cars is also giving perfect satisfaction. The cars are in constant use and run from three and a half to four and a half years without repainting, and are then in much better condition than many cars we come in contact with that have been repainted every second year. Our affiliated companies have had 225 tank cars come through from the manufacturers during the past year, and in every instance we have specified DIXON'S SILICA-GRAPHITE PAINT.

"WOOD PRODUCTS COMPANY,
"(Signed) N. M. PIERCE,
"Vice-President."

Tank Cars,
Wood Products
Co., Buffalo,
N. Y.

Tank Cars,
U. S. Industrial
Alcohol Co.,
Buffalo, N. Y.





Residence, Vice-Consul of Russia, Mamaroneck, N. Y.

Steeplejack Kay, Mamaroneck, N. Y.

Water Tank, Ansonia O. & C. Co., Ansonia, Conn.

"**STEEPLEJACK KAY**" of Mamaroneck, N. Y., is one of the best men in his line, "high" or low. You can judge of that fact by looking at him in the above illustration and also at his work on the above illustrated structures.

We are glad to reproduce testimonial letter received from Steeplejack Kay:

"I painted the above 70,000-gallon water tank owned by the Ansonia O. & C. Company, also the porch roofs of the residence of Vice-Consul of Russia, Oriento Point, with Dixon's Silica-Graphite Paint, and have guaranteed it as the **LONGEST SERVICE PAINT**.

"I know real paint when I use it, and so far as good paint goes, I vouch that Dixon's Silica-Graphite Paint is not only good, but the **BEST** for water towers and all exposed metal or wood surfaces.

"The tin roof of my own house is also painted with Dixon's Paint, which is the best for the purpose."

◆ ◆ ◆

There are many instances where it is desirable to make use of a cheaper electrical resistance unit than German silver wire or other expensive material. Dixon's Graphite Resistance Rods usually make a satisfactory substitute at far less cost.

What is the Difference between Dixon's Flake Graphite and other Crystalline Graphite?

ANSWER: Dixon's Flake Graphite is secured by concentration processes from undecomposed ore so that the natural, smooth, dense surface has not been destroyed by contact with a rough surface, which is always the case when the rock has become decomposed. Furthermore, the flakes are very much thinner than any other crystalline graphite known, thus giving, pound for pound, very much more lubricating surface than other crystalline graphite, the laminæ of which are not so thin. While the flakes of the Dixon Graphite are thinner than those of the graphites produced in other districts, yet by further milling operations they could be split up into still more flakes. While the concentrating and milling operation removes practically all the free impurities, the extremely fine micaceous particles found between the laminæ in coarse flake graphite cannot be removed by mechanical means, so when we speak of the purity of Dixon Graphite we refer to mechanical purity. Chemical examination may sometimes find as much as 10% of chemical impurity, yet almost all of this is held between the laminæ of the flakes, where it could do no harm even though it were not micaceous.

Dixon's Silica-Graphite Paint Gives Fifteen Years' Service for Wooden Houses

MR. MOORE painted his wooden house at Oakfield, New York, in 1903 with two coats of Dixon's Silica-Graphite Paint, Natural Color, trimming up with white. Mr. Moore gave us a testimonial some years ago, and it is repeated most courteously by Miss Delie Maltby, the able manager of his estate.

"OAKFIELD, NEW YORK,

"June 3, 1918.

"Your representative, Mr. J. A. Condit, of Buffalo, has requested me to advise you if the house of the late C. W. Moore has been painted since 1903.

"I am pleased to inform you that although the house has *not* been painted since June, 1903, when Mr. Moore used Dixon's Silica-Graphite Paint, Natural Color, the condition of same is much better than that of other houses painted with the usual ready mixed paints less than three years since.

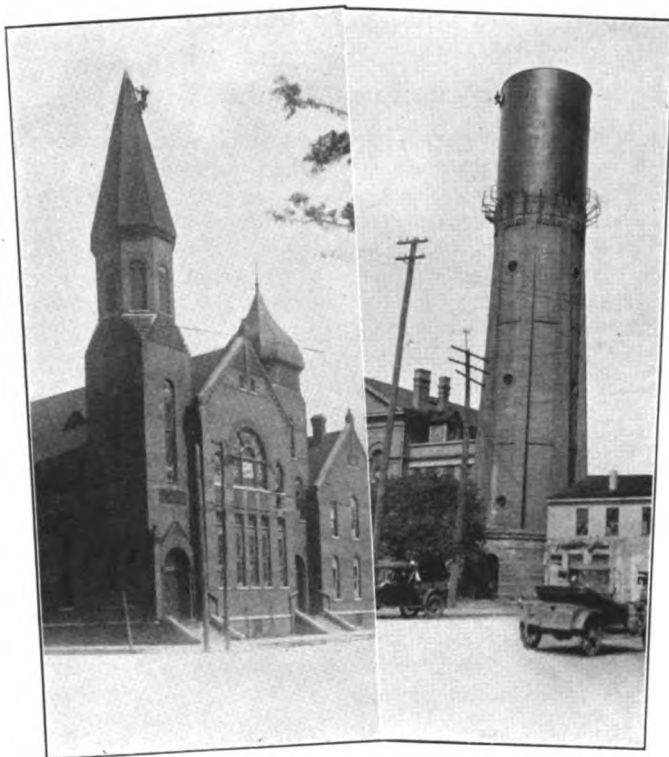
"We are planning to repaint Mr. Moore's house this summer with Dixon's Paint, again using a light trimming color.

"(Signed) DELIE E. MALTBY."

One of the reasons why Dixon's Silica-Graphite Paint gives such long service on wood work is due to the fact that no paint equals the graphite quality of Dixon's for resisting dampness, and no paint equals the silica component in Dixon's for adhesive cling and resistance to wear. Try it on wood or steel.

Dixon's Silica-Graphite Paint has been most widely used on metal, but many letters like Miss Maltby's convince us that **DIXON'S SILICA-GRAPHITE PAINT** is the coming paint for wood surfaces.

House owners should therefore insist on being supplied with Dixon's Silica-Graphite Paint.



Climbers!

SOME people climb on "bluff," and some on merit. The novelists satirize the social climbers.

We recall having seen the famous American actress, Amelia Bingham, in a play called "The Climbers."

Alvan Parkinson of Detroit, Michigan, is one of those "climbers" who ascend on merit and courage.

In the illustrations, Mr. Parkinson is seen hanging on the steeple of the Baptist Church, Brunswick, Georgia, and on the high water tower at Americus, Georgia. In both cases he is applying Dixon's Silica-Graphite Paint for protective purposes.

Steeplejack Parkinson would not risk his life in applying a short-lived paint. He chooses the LONGEST SERVICE PAINT (Dixon's), so that when the job is once done it lasts for many years.

Dixon's Paint is a "climber" on merit and service. Steadily for over fifty years, the record of Dixon's Paint has climbed high because the quality has never descended. Remember, Dixon's is **FIRST QUALITY** only, in our special Ticonderoga, New York, pigment. We believe that for endurance and economy, it is without an equal.

Sequel to "Durability of a Pencil Mark"

WE are pleased to reproduce below a letter that shows in another way the durability of pencil marks.

DEAR GRAPHITE: HOULTON, ME., April 11, 1918.

Referring to "Durability of a Pencil Mark," your issue this month, I had occasion a few years ago to examine some papers which had become somewhat scorched in a safe which went through a fire. Many of the words written with ink were entirely illegible, but those written with lead pencil were perfectly clear. I thought this surprising at first, but on reflection not so. Mr. Weir got the result of a water test, but I got that of a fire test.

MOSES BURPEE.

Managers of Sugar Plantations and Railroads, Attention!

THE Dixon Company takes pleasure in quoting the following testimonial from Mr. Thomas Murray, Engineer of the Paauhau Sugar Company, Paauhau, Hawaii, T. H.:

"We have on this sugar plantation two steel bridges, one 100 feet span and the other 200 feet long, with a pier 100 feet high in the center.

"We also have three steel buildings, the sizes of which are:

"40 feet \times 160 feet and 22 feet to eaves.

"50 feet \times 160 feet and 22 feet to eaves.

"55 feet \times 160 feet and 27 feet to eaves.

"All the steel work contained in our bridges and buildings has been painted with Dixon's Silica-Graphite Paint for the past eight years.

"I have had to do with the painting of these structures for the past twenty-eight years, and during that time have never found a paint for tropical or subtropical countries to equal Dixon's Paint.

"The climatic conditions here are particularly severe, and Dixon's Silica-Graphite Paint has stood up against the damp hot winds coming off the sea, which we consider an excellent recommendation for your paint."

If you are not already a user of this LONGEST SERVICE PAINT, it will pay you to consider its merits.

◆ ◆ ◆

The principal steel and brass rolling mills in this country use Dixon's Graphite Greases. For cold necks or those cooled by running water Dixon's Waterproof Graphite Grease has no equal. It furnishes dependable lubrication for the necks, fillets and collars and cannot be washed off by the water. There are also several other grades of graphite greases to meet special conditions.

Mining Companies, Attention, Please!

THE high board wooden fence surrounding the property of the East Butte Copper Mining Co., Butte, Montana, also their wooden buildings, were painted with Dixon's Silica-Graphite Paint in 1910,—eight years' service.

Mr. E. D. Pratt, Purchasing Agent of that company, a real "efficiency" man (he goes by cheapest cost "per year" of service, not "per gallon" cost), told Mr. W. H. Wanner, representative of our San Francisco Sales Office, that we could go ahead and use his name and this excellent service of Dixon's Silica-Graphite Paint on his plant all we wanted to, so as to get more business for our paint.

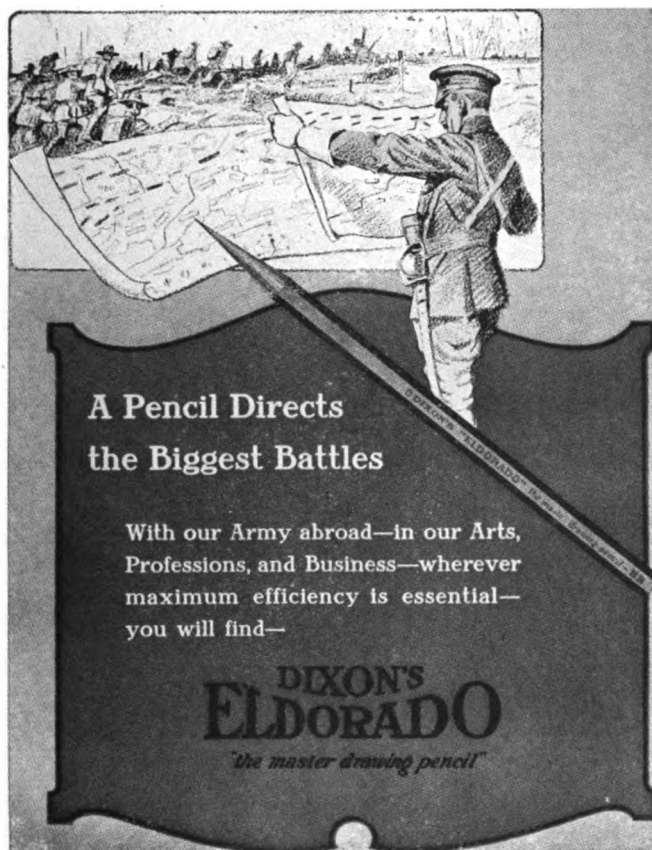
Dixon's Silica-Graphite Paint is the best protective paint for wood or metal because it LASTS LONGER and saves in "yearly" cost of labor and material.

◆ ◆ ◆

Dixon's Pioneer Boiler Graphite makes boiler cleaning positive and easy. It also reduces fuel consumption, minimizes repairs and prolongs the life of boilers.

◆ ◆ ◆

"WHEN one man injures another, he cannot escape the consequence. It hangs over him as a debt that he must liquidate."



Timely ELDORADO Dealer Sign

SINCE Dixon's ELDORADO—"the master drawing pencil" as an American product is doing its part in the war-time work of the nation, an ideal sign for both counter and window use has recently been prepared, giving expression to the idea of an army officer inspecting a battle plan.

The reproduction herewith shows the design, but cannot of course indicate the attention-getting qualities of the blue and yellow color effect in the panel carrying the ELDO-RADO message, and the effectiveness of the heavy black pencil sketch above.

There is no question that this sign will make strong appeal to the trade, and any dealers desiring one of these signs should address Joseph Dixon Crucible Company, Department J. This sign is intended to stand either in the window or on the counter and has a stand for this purpose.

The History of Lubrication

THE history of civilization records that a piece of Dinosaur fat was used as the first lubricant. Whether it was used to eliminate an annoying squeak in the royal perambulator or to make running easier on the big wooden-wheeled ox cart is not clear, but it is quite certain that Dinosaur fat was effective in its way.

Animal fat would hardly do in this age of motor cars, however, because of the finely ground surfaces of the bearings. The motor-car bearing demands a more substantial lubricant, one that will fill the microscopic spurs and pits and form a tough, durable, smooth film over the entire surface.

Dixon's Graphite Automobile Lubricants are made for this purpose. Selected flake graphite is used because it adheres firmly to the surface, and wears into a smooth, heat-resisting lubricant.

Dixon's Silica-Graphite Paint in South America

Structures in or near Buenos Aires, Argentine, Protected with Dixon's Silica-Graphite Paint

THE Dixon Company takes pleasure in illustrating on the front cover of this issue a very interesting variety of structures in or near Buenos Aires, painted with Dixon's Silica-Graphite Paint.

These structures, it will be noted, include electric light and tramway standards, steel bascule and signal bridges, water storage tanks, steel shutters, ornamental iron gates, fire escapes, steel scale frames, crane runways, steam and water piping, signal apparatus, compressed air tanks and pipes, boiler fronts, cooling tanks, steel window frames, smokestacks, outside steel elevator frames, steel fire doors and petroleum tanks.

This set of photographs very graphically illustrates how suitable Dixon's Silica-Graphite Paint is for the protection of all kinds of work in any and every climate.

As the cost of labor is very high, prudent superintendents and owners are more and more coming to the conclusion that it is economical to specify and use Dixon's Silica-Graphite Paint, because it LASTS LONGER and saves in labor and material.

The old method of buying protective paint on the "per gallon" price, with the life of possibly only a few months, is a worn-out, pennywise and pound-foolish policy of economy. Paint that costs the least per year of service is the most economical paint to apply, and that is the reason why Dixon's Silica-Graphite Paint is so widely used in Buenos Aires and elsewhere.

The Joseph Dixon Crucible Company is represented in South America as shown on second page of cover of GRAPHITE.

◆ ◆ ◆

Dixon's Graphite Brushes prevent sparking and wear of commutators. They do not gum the commutator, are tough and strong, and have very long life if properly adjusted.

◆ ◆ ◆

"We are having excellent success with the sale of Dixon's Automobile Lubricants"

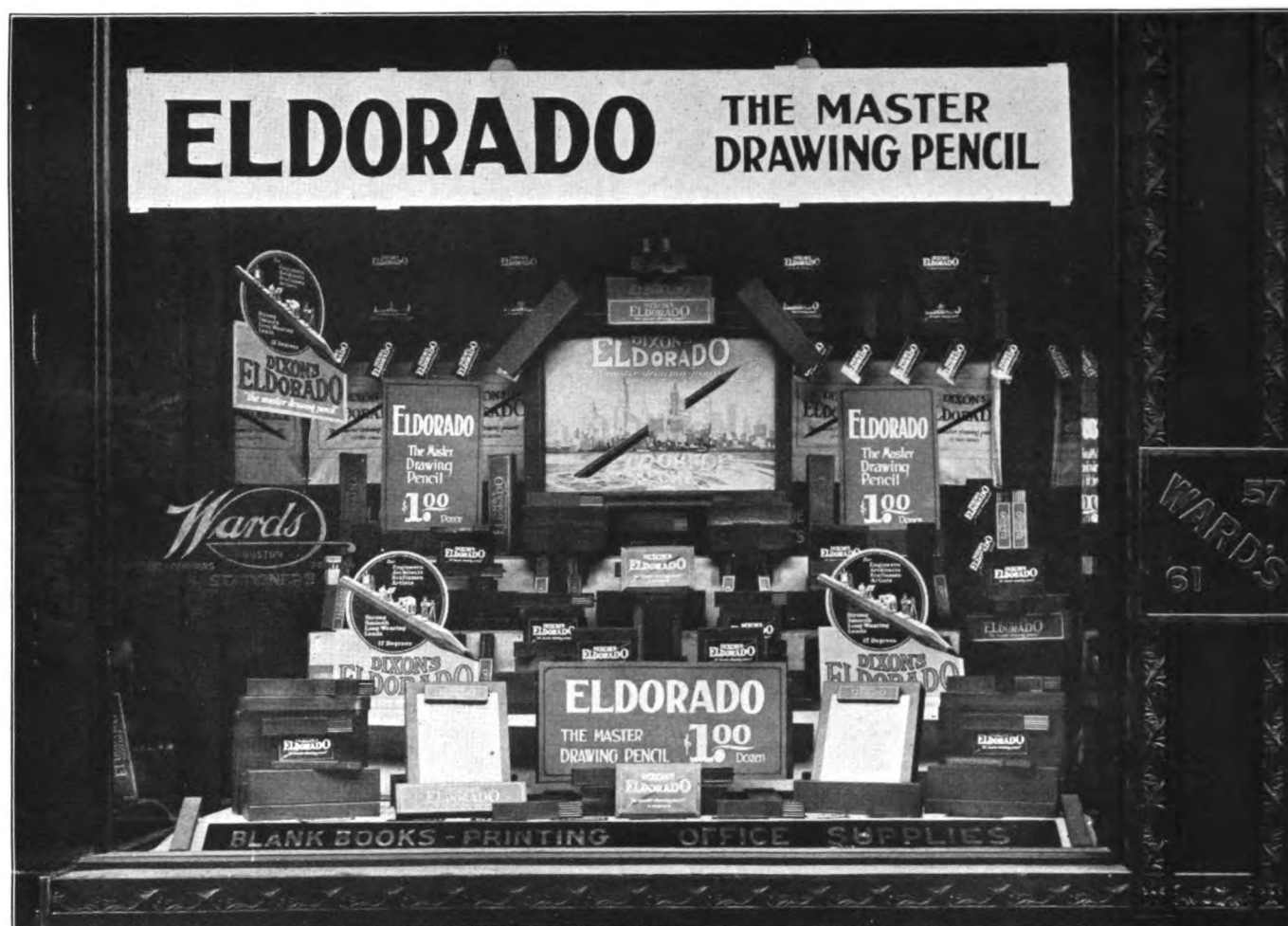
SO write the Cœur d'Alene Hardware & Foundry Co., Wallace, Idaho, and it is with pleasure we reproduce below the balance of the letter.

"April 17, 1918.

"We take pleasure in announcing that we are having excellent success with the sale of 'Graphite Products' as manufactured by the Joseph Dixon Crucible Co., Jersey City, N. J., and especially the sale of Graphite Greases for automobiles.

"Last year was the second year that we handled this commodity, and since our sales were four times what they were during the first year, and as we have sold as much this year already as we did during the entire year of 1917, we are thoroughly convinced that this product has an exceptional merit, for the reason that all of our preferred customers are specifying the Dixon Greases and do not hesitate to advise us that it is the best product which they have ever used for this purpose."

That other dealers have had the same success is borne out by letters received from them and which will be published from time to time.



A Boston ELDORADO Window

WHILE Ward's big store on Franklin Street, Boston, may have put an extra stroke of the genius of sales-making into this window, the evidence is weighty that these window trims do bring ELDORADO into focus in the minds of a lot of large and small users of high class pencils—or potential users of them. In a recent issue of GRAPHITE a dealer told how an ELDORADO window display made 10-cent customers of a large part of his 5-cent trade; and this is not at all difficult in these days.

It is beyond question a paying proposition to take a quantity of ELDORADO, put in this free trim, and sell ELDORADOS to the person who has been reading about it in the magazines, and needs only the suggestion from his dealer to send him in to buy.

This Ward window was commented on by the superintendent of a big industrial plant at some distance from Boston; and another Boston display appearing at the same time was complimented by a college professor—perhaps the hardest class to interest in a commercial exhibit.

Evidently the "Hub" is out to contest Philadelphia and Chicago in the window-trimming art. The latter city has a mighty live showing, however—to appear in a future number—and Philadelphia set a hot pace in the June number of GRAPHITE.

◆ ◆ ◆

THE next thing to genius is the ability to appreciate genius, but greater than either is the ability to utilize genius, whether your own or another's.—Ginger.

Foreign Trade and Obligation

THE obligation of American manufacturers to take on foreign trade as quickly and as thoroughly as they can is a national obligation, because it is the only way to maintain the tremendous credit balance that now stands in our favor." Thus declared Burwell S. Cutler, Chief of the Bureau of Foreign and Domestic Commerce, Department of Commerce, addressing a convention of the Georgia Manufacturers' Association at Augusta.

The speaker drew a picture of probable conditions during the reconstruction period after the war and showed that not less than 3,000,000 men of Great Britain's armies alone will seek industrial occupation on their return home, in consequence of which there is likely to be an intensive competition between that empire and ourselves not only in our present foreign markets but also in the United States. Obviously, our industrial allies—and some of our enemies perhaps—will seek the United States as a market where prosperity has reached high-tide mark and where the purchasing power per capita will be greater than in any other part of the world. To compensate for the share in our home market which Great Britain and France can rightfully claim, for the purpose of paying back to us the billions of dollars loaned them, our own manufacturers must sell their wares in every foreign market which they can reach. In other words, association with these two nations in a common financial and military enterprise has forced us to become world merchants, whether we want to or not.

"Perhaps the newest but most decisively binding part of

the obligation," said Mr. Cutler, "relates to the necessity of consuming in our own factories as much of the precious raw materials found and produced in this country as our manufacturers can turn into goods. Let us not revert to the sale of raw materials on the scale that characterized our export trade prior to 1870, for it is only since that time, when we have been selling labor and service, that we have become one of the great economic world powers."

Graphite as a Lubricant

A MICROSCOPE shows all metal surfaces to be irregular. The surfaces look like a nutmeg grater. Flake Graphite attaches itself to the high spots, filling in depressions and forming over the whole surface a thin, tough film, unctuous to the highest degree, thereby preventing metal-to-metal contact and substituting the low frictional contact of graphite-to-graphite for the high frictional contact of metal-to-metal.

Dixon's Flake Graphite

- 1—Is unaffected by high temperatures.
- 2—Cannot be carbonized or ignited.
- 3—Cannot possibly give off explosive vapors.
- 4—Will not accumulate dust or grit.
- 5—Does not clog discharge valves.
- 6—Improves frictional surfaces.
- 7—Prevents metallic contact.
- 8—Reduces amount of oil or grease.
- 9—Reduces friction.
- 10—Prevents shut-downs.
- 11—Saves power and fuel.

Graphite as a lubricant is not a competitor of greases or oils. On the contrary, the two in most cases go hand-in-hand. Dixon's Flake Graphite improves all oils and greases, the oils acting as a carrier to properly distribute the graphite. There are some cases where we do not recommend graphite as a lubricant, particularly if the lubricant must be a non-conductor of electricity, as graphite is a good conductor. And, *vice versa*, there are some conditions when graphite alone works best.

The proper use of Dixon's Flake Graphite will reduce the cost of cylinder lubrication at least 50%. This is no exaggeration, either.

A mixture of graphite permanently suspended in oil has no particular advantage over a non-graphited oil as a lubricating material because the particles of graphite, being in perfect suspension, cannot break through the surrounding film of oil or easily become attached to the metal surfaces. They simply move about in the oil film without at all decreasing the viscosity of the oil itself, the only way in which any reduction of friction could be brought about. In fact, a mixture of finely divided graphite and oil has a higher viscosity than that of oil alone, and so reduction of friction is not to be sought along this line.



Dixon's Waterproof Graphite Grease is the best lubricant for pump plungers and piston rods because it will not wash off, but sticks and lubricates.

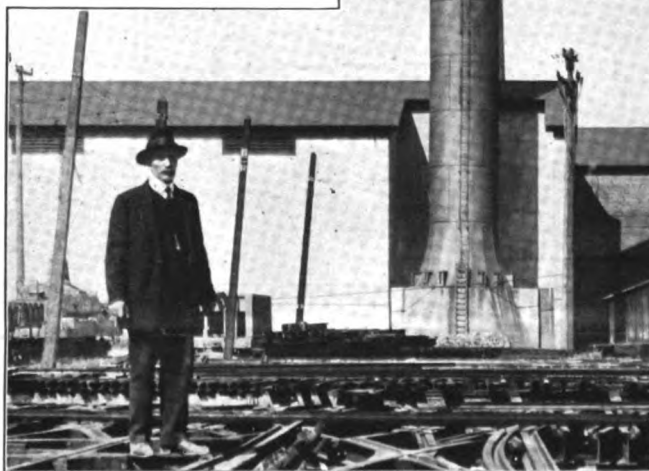


You may insist upon going to the dogs for a reasonable length of time, but remember that eventually even your friends get tired.—*Through the Meshes*.

Two Economy Winners

THIS illustration shows Mr. F. W. Nelson, Superintendent and Chief Engineer of the Power Station of the San Francisco - Oakland Terminal Railways, standing near the smokestack of his plant on the Oakland side of San Francisco Bay.

Mr. Nelson is one of the best engineers in his line, and gets the best material and lowest yearly cost. He had Dixon's Silica-Graphite Paint applied to this stack eight years ago, and



he informs us it is still good for two years more service.

It will easily be seen that Mr. Nelson takes good care of himself and does not need Dixon help. The smokestack, however, needs the best of help and the efficient Mr. Nelson says that it receives it. The stack is in use 365 days of the year, and is exposed to dense fogs, salt water, salt air, and smoke attack and other deteriorating agents. By the aid of Dixon's Paint, this stack is kept in good condition at lowest yearly cost for labor and paint.

If you use a cheap paint, you waste the high cost of labor, and apply paint more frequently than you need to do if Dixon's Silica-Graphite Paint is used in the first place.

A Prayer of the Soldiers for the Nation

LET Thy benediction, O God, be upon our nation. Banish from it all that is unholy. Quicken its people to a new sense of duty to Thee and to mankind. Fill them with the spirit of sacrifice. Teach them that Thou art calling them to some great service in the home, in the factory, on the farm, as Thou art calling us to the battle-field. Awaken everywhere, O Heavenly Father, a deeper sense of the meaning of life, a new consecration of our nation to Thy service, that the time may be hastened when through the service and the sacrifices of our country Thy kingdom shall come and Thy will be done throughout all the earth as it is done in Heaven, and Christ shall reign in every heart.—*Manufacturers Record*.

Labor Turnover 700% a Week

MR. BABSON tells us that it has been necessary to take on seven hundred men in order to keep one hundred jobs through seven days. Eighty-four thousand workers taken on in eight months to keep two thousand jobs filled! Such is the record of the Pennsylvania Lines West. On the average, these men remained employed less than a week. Then Mr. Babson calls our attention to another case where the labor turnover ran as high as 700% a week. Then he says: "What we are dealing with here is, after all, only a commonplace feature of our industrial life. If labor restlessness were merely a product of the war, we could make up our minds to endure it, along with war taxes, war prices and war rations. But it is not. It is rather to be classed with the social maladies we harbored unconsciously in time of peace, such as the malnutrition and medical neglect that have given us an adult male population of which less than two-thirds are physically fit. The war has merely opened our eyes."

Bond Buyers

IT was estimated that before the war there were 400,000 bond buyers in the United States. The number of bond buyers has now increased to 20,000,000, due to the buying of Liberty Bonds.

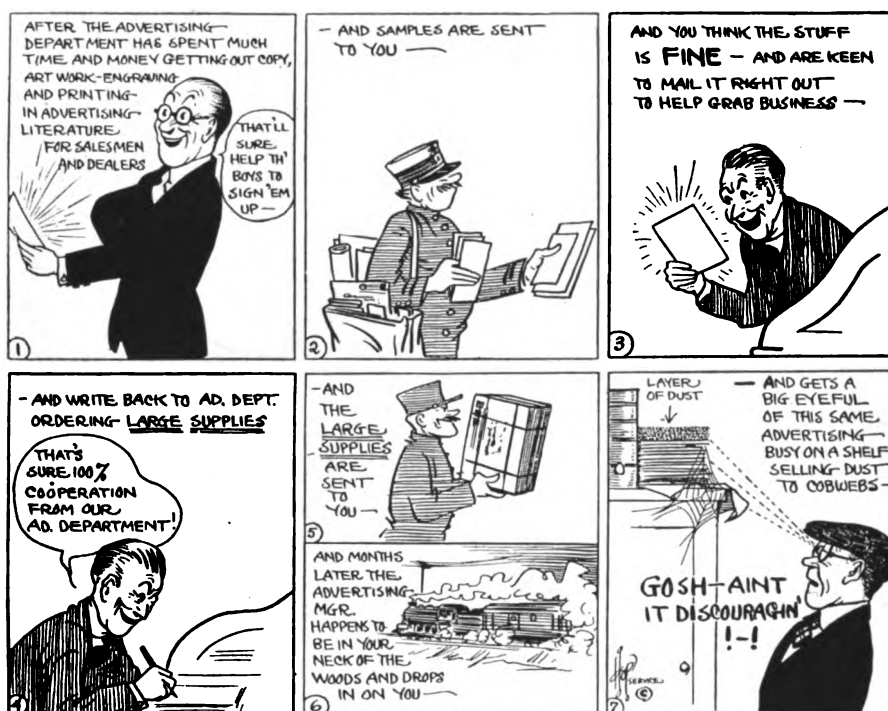
It is estimated that after the war the people of the United States will not hesitate, as they have in years gone by, to invest in foreign bonds, and this will mean the investment of American money in foreign industries. It will mean that in Latin America there will be invested vast amounts of United States money. Other nations have been so investing for many years, but to-day the

United States is financially so much better off than other nations, that her money will be sought for, and it will be the duty of the people of the United States to help rebuild the world.

Fresh Air

THIS is the time of the year when the fresh-air cranks tell us that we should sleep out of doors, breathe all the fresh air possible, and if we can't sleep out of doors then we should rest our weary heads in sleeping porches, and if we cannot do any better we should have our windows wide open.

Ain't It Discouragin'?—Hopkins



They seem to forget that it was eight months and twenty-three days after the beginning of the flood that Noah "opened the window of the ark which he had made."

However, the stuffy experience which they all must have had in the ark may have had an effect upon Shem, a mere boy of 100 at the time, for we know that later he went in for tent life.

Keep the Rims Graphited

THE displacement of tires from detachable rims and the removal of demountable rims from wheels will be made easy by keeping the rims, etc., clean. More or less moisture finds its way to the bearings' surfaces, particu-

larly in the winter, and rust follows. Make a mixture of powdered graphite and oil, a thick paste, and smear the parts. Then remove the surplus and polish with a cloth. The graphite will fill the pores of the metal, resist the action of the water and make changing of tires or wheels an easy matter. The mixture will not injure the rubber of the shoes.—*Motor Digest*.

Fish vs. Gold

IN the old days we knew of Alaska chiefly, if not entirely, through the gold that came from her mines. At the present time the really golden stream of Alaska's wealth comes pouring into the other States packed in barrels, boxes, cans and in sacks, without a single glitter of gold about it. Indeed the fish products of Alaska alone exceed in value by the handsome sum of \$13,220,237 the value not of her gold only, but all her mineral wealth.

During 1917 her canned salmon was valued at \$41,478,514, and her gold shipment was \$14,939,440. Copper, with its value of \$27,243,510, led not only gold but all other minerals combined: tin, tungsten, antimony, lead, silver, gypsum and marble.

The King of Chemicals

UNDER that heading the *Financial Index* of New York tells us that sulphur is the king of chemicals.

"It serves more uses, saves more lives and performs more duties than any other natural commodity in the world."

It adds that this statement is made on the authority of men who know chemistry and medicine a great deal better than the editor of the *Financial Index*.



Dixon's Solve Your Lubrication Problem

Metal-to-metal contact in bearing surfaces causes friction. Unchecked it reduces your power, increases expense and hastens the end of your car's usefulness.

DIXON'S GRAPHITE Automobile LUBRICANTS

put a wear-resisting film of selected flake graphite over the metal surfaces. Dixon's alone prevent grinding and give you a better-running, longer-lasting car.

Ask your dealer for the
Dixon Lubricating Chart.

Joseph Dixon Crucible Co.



Jersey City, N. J.
Established 1827



Change Tires This Way

WHEN your rear wheels revolve, the traction on the road has a tendency to stretch tread, fabric and side walls in exactly the opposite direction in which the tire revolves.

When your front wheels revolve the traction of the road has a directly opposite effect to that produced by traction on tires on rear wheels, for the tread, fabric and side walls are stretched in the same direction the wheel revolves.

Remember this when shifting tires: always place a rear tire on the opposite wheel so that it will revolve in exactly the same direction. The reason for doing this is that, if you placed a rear right tire on the rear left wheel, and in doing so turned the tire completely around, the traction of the road would start stretching the tread, fabric and side walls in the opposite direction from which they had been stretched, and you would soon have loose tread, weakened fabric and general deterioration.

—Digest, St. Louis.

A GOOD deal of human carelessness is blamed on Providence.—McGills Mag.

GOLDEN BOUQUETS

OR WHY

DIXON'S ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

From several Studios:

"WE wish to advise that the writer is using your drawing pencil for drawing work and finds it an excellent article."

"OUR Art Department found the samples of your ELDORADO pencil especially satisfactory and more economical than the ordinary drawing pencil."

"WE are pleased to advise that the ELDORADO pencils which were forwarded to us were entirely satisfactory, and as soon as the pencils we now have in stock are used up, we will certainly place an order for some of your goods."

From Business Firms:

"WE wish to acknowledge receipt of sample pencils sent us, and are pleased to advise that we have found them to be of excellent quality. When we place our next order for pencils, Dixon's ELDORADO will be specified."

"REPLYING to your request of the — inst., would say that samples of Dixon's ELDORADO pencils which were received by me, were eminently satisfactory, and that my last requisition called for these pencils. They were received and are of the same type as samples."

"I HAVE received the full-length samples of your ELDORADO pencils. Indeed, these pencils have entirely met our requirements, and we are more than pleased with the work they do. You may be assured that our next pencil order will specify the ELDORADO."

A Contractor writes:

"IN reply to yours of the — inst., would say that the samples of the 4H grade pencils, Dixon's ELDORADO — 'the master drawing pencil,' left us, were given to several of our men for a try-out. In each case the report was favorable toward this pencil."

An Office Head states:

"WE are in receipt of your letter of the — inst., together with samples of pencils, for which we thank you. We have tested these pencils and shall certainly specify Dixon's ELDORADO in our next order."

An Engineer writes:

"YOUR letter of the — enclosing samples, or rather the original HB, 2H and 4H grade ELDORADO pencils, received, for which we thank you. We have given these pencils a thorough test and they are the best we can purchase."

A School User says:

"I RECEIVED the samples of ELDORADO pencils, and I find them in their work simply elegant. They are the smoothest pencils I have ever used, and the lead seems to be more evenly grained than others I have used. I thank you for the samples, and in my next order for pencils I shall specify the ELDORADO."

An Architect says:

"WILL state that the ELDORADO samples were received and found very satisfactory; as to the smoothness of the lead, wearing qualities, and finish, they are unequaled."

An Executive writes:

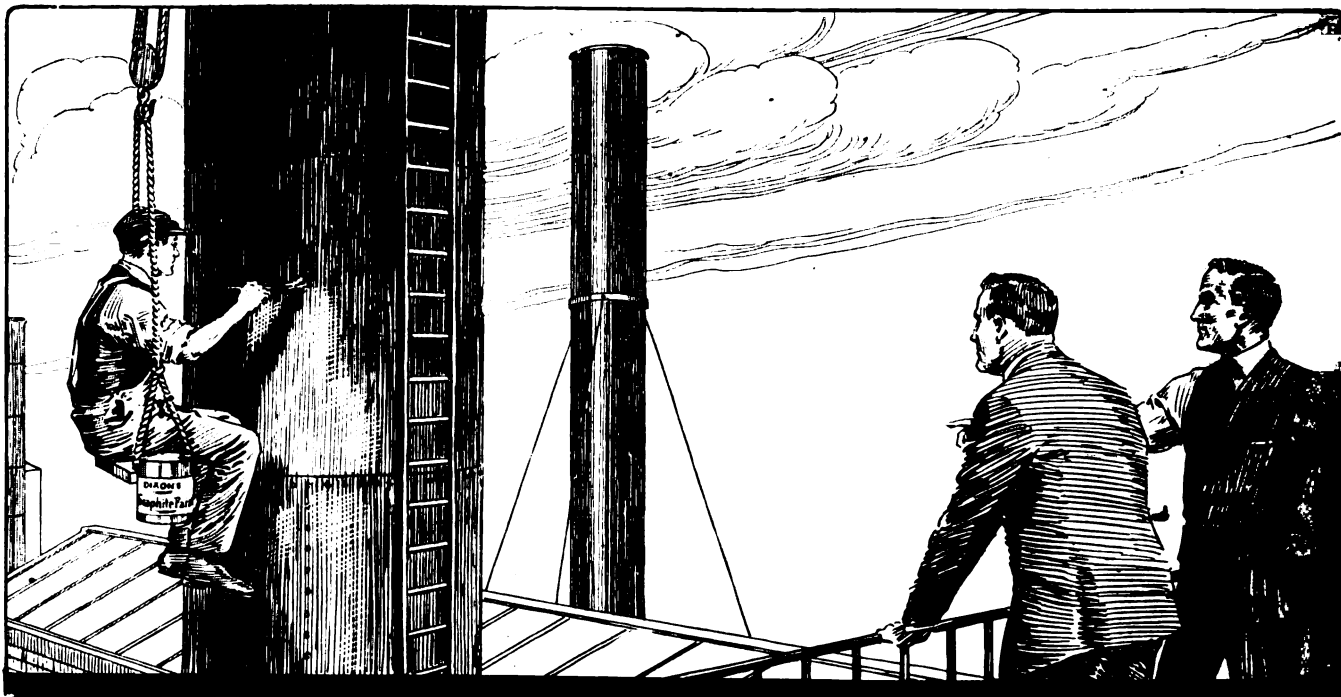
"THIS is to acknowledge receipt of your letter of —, also the samples of pencils you sent me. The Dixon ELDORADO, HB, is surely an excellent pencil."

From Industrial Concerns:

"WHEN the European war shut off the supply of imported drawing pencils we anticipated having considerable trouble in finding a domestic product that would be satisfactory for our work, but we are glad to say that we have found Dixon's ELDORADO as at present made to be quite the equal of any imported pencil, and we never expect to go back to using the foreign product."

"REFERRING to yours of the —, we are pleased to advise you that, as far as we have used the ELDORADO pencils, they have proven very satisfactory."

"I RECEIVED the sample pencils several days ago and like them fine. Dixon's ELDORADO will be the next pencils we buy."



“Experimenting With Paints, I Found One That Lasts”

“That man is putting some of it on now, but it will be years before any more is needed,” remarked the Chief.

“Smokestacks are hard on paint too, as you know. But Dixon’s Silica-Graphite Paint seems to stand it fine. I tried several brands before adopting it as our standard.”

“Where does the saving come in?” asked the G. M.

“The greatest saving of course is in labor. We don’t have to repaint as often as we used to. Then the long service that this paint gives makes the cost economical also.”

“Painting the Smokestack,” No. 190-B, is an interesting Bulletin on this subject and will be sent free to power plant engineers and purchasing agents on request.

Made in JERSEY CITY, N. J., by the

Joseph Dixon Crucible Company



Established 1827



THE DE VINNE PRESS
NEW YORK

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no. 9

Graphite

VOL. XX

SEPTEMBER, 1918

No. 9

2nd ANNIVERSARY

DIXON'S
ELDORADO

"the master drawing pencil"

DIXON'S "ELDORADO" the master drawing pencil - HB



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868

**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**

DIRECTORS

GEORGE T. SMITH GEORGE E. LONG
WILLIAM G. BUMSTED EDWARD L. YOUNG
J. H. SCHERMERHORN HARRY DAILEY
ROBT. E. JENNINGS

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ATLANTA OFFICE 225 Peachtree Street

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FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

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H. Glyde Gregory, Royal Bank Building, San Juan

LATIN-AMERICAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

National Paper and Type Company, 31-35 Burling Slip, N. Y.

With Branch Houses in Mexico, Cuba, Peru, Argentine, Uruguay, Venezuela, Porto Rico and Colombia

CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

A. R. MacDougall & Co., Ltd., 468 King St., West, Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.

Values—

Our ideas of values are what usually determine our attainments, whether in character, or education, or wealth, or humane usefulness.

And so it is in the small things: If we *value* a lead pencil of *quality*—recognizing it makes for increased speed and accuracy in our work—we will make it a point to purchase such a pencil.

**DIXON'S
ELDORADO**
"the master drawing pencil"

has *all* the elements of the ideal pencil, whether for drawing, accounting, shorthand or general writing. The very fine texture and marked wearing quality of the lead make the net cost little if any higher than for lower priced pencils.

17 degrees—6B (softest) to 9H (hardest), HB (medium) for general use.

*Write on your letter-head for samples.
Specify degrees or nature of work.*

JOSEPH DIXON CRUCIBLE CO.

Dept. 190-J, Jersey City, N. J.

ESTABLISHED 1827





THERE is somehow always a human interest in anniversaries, whether we call them golden weddings, birthdays, patriotic holidays or something else. And we have an idea that one of the reasons for this is that we like to look back from the anniversary to the original event, or *vice versa*.

2d Anniversary

DIXON'S ELDORADO *"the master drawing pencil"*

through third parties samples of these pencils, unfinished and unmarked, to Architects, Engineers, Draftsmen and Artists. The unanimous opinion expressed on the samples was ample compensation

to our experts for their efforts.

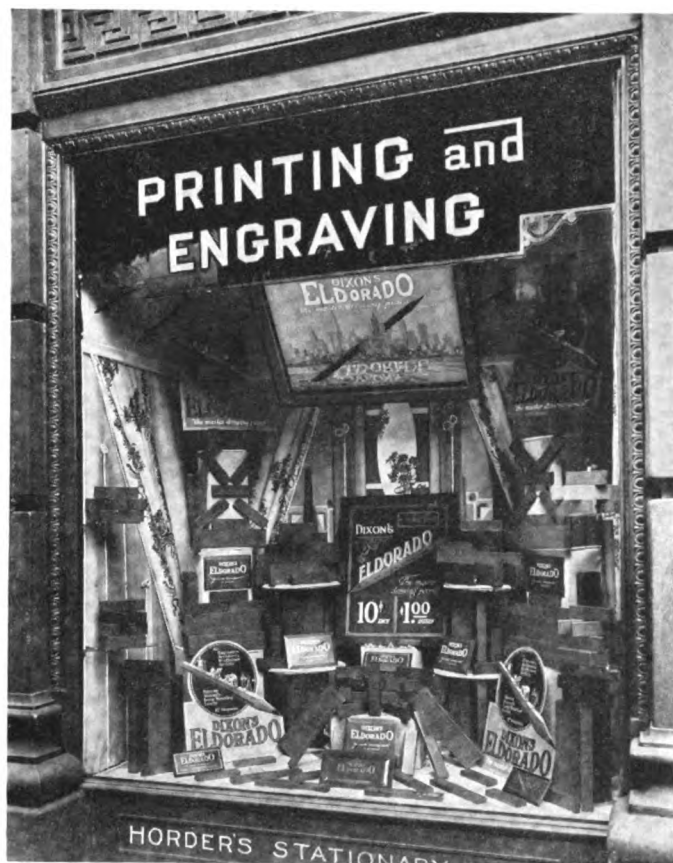
Thus we "happened," on August 5, 1916, to offer to the public, through the trade, Dixon's ELDORADO—"the master drawing pencil." And now, looking back two years—with all of our faith in the quality of the ELDO-

RADO pencil, we did not believe it possible for it to gain such a high prestige and wide distribution in two short years. The problem with which our experts are confronted to-day is to produce them in sufficient quantities to satisfy the demand, and this problem we believe they will solve also before very long.

The endorsement of the ELDORADO pencil by thousands of representative users, including the leaders in their classes, is of course gratifying to us, but our greatest pleasure comes from the fact that we believe we have performed a national service in giving, especially to the technical world, a superior *tool* at a time when its work is so important to the welfare of the Nation; and we think it is this consideration which inspired the comment that Dixon's ELDORADO—"the master drawing pencil" is an *American Achievement*.

When it became apparent that these foreign-made pencils would no longer be available, some of our friends in the trade suggested that with our organization, experience and facilities, we were the logical manufacturers to accept the responsibility of producing a drawing pencil which would be at least as serviceable as the foreign goods.

Our experts set to work, making the most painstaking and scientific research and experiments. After eighteen months of faithful effort, they produced the proposed Dixon's ELDO-



Chicago ELDORADO Exhibits

STARTING with a background of rich wood in natural finish, S. D. Childs & Company have arranged, with a comparatively small amount of material, a very attractive window. The handling of the large cartons, pencils, small boxes and dummy boxes is worthy of careful study—particularly in connection with the use of the velvet runner, with its subtle suggestion of quality—as a treatment along simple but effective lines.

The Horder Stationery Company exhibit illustrates how a considerable quantity of goods and trim may be displayed to advantage in a tall, narrow window. The secret, of course, is in placing the central feature high and carrying the whole exhibit upward. The result is an elaborate window of exceptional pulling power. Comment on the unusually artistic scheme of wall covering which is a feature of Horder windows is hardly necessary.

Altogether, anyone who can choose between these and the Philadelphia and Boston windows is a good deal more expert and critical than we are.





It's Her Eyes!

DIXON dealers have recently received a new cut-out sign, illustrated here, which from the comments appears to be one of the most popular signs that the Dixon Company has put out.

The cut-out is of handy 10×11 inch size, beautifully printed in six colors, and presents a sort of Oriental glimpse of a girl clerk's head—the eyes, in effect, just peering over one of those forty-foot poster signs advertising a pencil that hardly needs advertising—Dixon's TICONDEROGA.

A true-to-life dozen box of the famous hex-cornerless pencil—an exact reproduction in size and coloring—appears at the right of the sign, and one No. 1386 pencil is thrust clerk-wise in the girl's hair.

Placed in the window, the lady is said to possess real magnetism in drawing passers-by inside to satisfy their various stationery needs.

Any Dixon dealer who hasn't received the sign—please send a post-card to the Pencil Department, Joseph Dixon Crucible Co., at Jersey City, and one of the cut-outs will be promptly mailed.

SEPTON MANUFACTURING CORPORATION
CORRUGATED FIRE BOARD
FOLDING BOXES, PAPER TAILS
FACTORIES
CHICAGO BROOKLYN
ANDERSON, ILL.
1301 WEST THIRTY FIFTH STREET
CHICAGO

July 18, 1918.

Joseph Dixon Crucible Co.,
Jersey City, N. J.

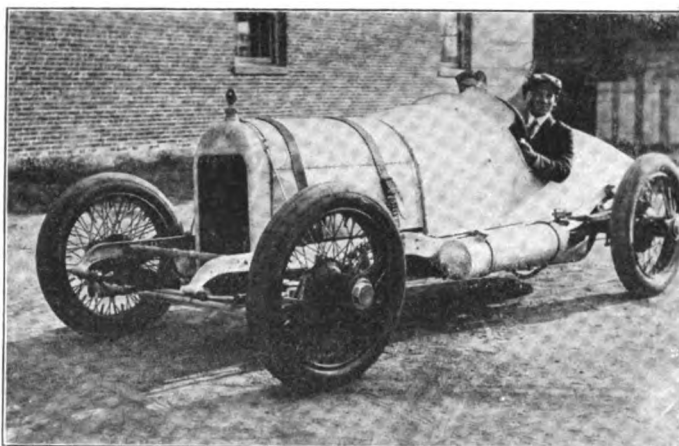
Sirs:

After a fair test of your "Master Drawing Pencil" both in uniformity and lasting quality, I have no hesitancy in declaring the Eldorado Pencil the equal if not the superior of any Domestic or imported one.

Yours very truly,

H. H. Herwig
Foreman of Art & Engraving Dept.

RHR-JH



Brent Harding, Former Juvenile Speed King

THE above photograph shows Brent Harding, of Los Angeles, former juvenile speed king, but now driving a Duesenberg racer.

The only thing he has to say about Dixon's Graphite Automobile Lubricants is that he uses them in all his racing cars so does not have to praise them. His use of them is sufficient evidence as to what he thinks.

Advice to Automobile Owners

THE following letter of advice from Barber & Ross of Washington, D. C., if followed by automobile owners, will result in their having smoother running and longer lasting cars:

"My advice to owners of automobiles in deciding on a grease is to first consider quality. Get a grease that will absolutely lubricate.

The grease to which I refer will stick to the gears and bearings and keep them free from heat, and to do this it is necessary to use Dixon's Graphite Automobile Lubricants. During my eight years' experience in selling various kinds of greases I have not found one customer who does not agree with me.

Yours very truly,

BARBER & ROSS,

Per RICHARD W. WHEAT."

Dixon's Belt Dressing

DIXON'S Belt Dressing is prepared in two forms: the Paste (Traction Belt Dressing) and the handy sticks (Solid Belt Dressing).

SOLID BELT DRESSING is particularly popular and when applied to the belts it will instantly stop slipping. It contains nothing that is harmful and may be used upon either leather or cotton belts.

As a rule, rubber-faced belts do not require much belt dressing, but when the rubber coating is worn off either Traction or Solid Belt Dressing can be advantageously used. Dixon's Solid Belt Dressing will remove the glaze that the surfaces might acquire, but it should be used sparingly.

Dixon's Traction Belt Dressing contains ingredients which are similar to the filler used in leathers. Its action is slower than Solid Belt Dressing and its use makes belts soft and pliable. We know of no belt dressing that is its equal, the next best being Dixon's Solid Belt Dressing.



Lulah Falls from Lookout Mountain

THE artist's medium which gives greatest play to delicacy of touch is the lead pencil. The pencil that possesses this quality of nice response in most marked degree is Dixon's ELDORADO—"the master drawing pencil."

We offer the picture of Lulah Falls, on the stream dividing Tennessee from Georgia, as proof of the charm inherent in a fine smooth lead. This beautiful bit of nature was transferred to canvas by Mr. Ben H. Faris (who handles the Sunday Supplement and Magazine layouts of the Cincinnati *Commercial Tribune*) and by him copied on Bristol board with an HB ELDORADO. Mr. Faris assures us that with the exception of the fine lines in the stream, the entire sketch was made with *this one medium grade ELDORADO*. He further says: "You surely have earned the gratitude of the lovers of a good lead pencil."

The wide usefulness of the ELDORADO for everyone, from the hypercritical draftsman to the average pencil user, is made clearer by this picture than by a volume of words. If so many shades of penciling may be obtained from one degree (each shade representing the tone of some class of pencil work), what perfect adjustment to the individual taste may be expected from the seventeen degrees!



Dixon's Pioneer Boiler Graphite makes boiler cleaning positive and easy. It increases the efficiency of heating surfaces and reduces fuel consumption.

Antonio Alia

FOR several years there has come to the Dixon Office, almost daily, a small Italian,—small in stature but big in politeness, gentleness, manliness, sweetness and service. He was known as "Tony" by some, and as the "little boot-black" by others,—for boot-blackening was his business.

We paraphrase an old saying to describe his work:

"If a boot-black by trade, I'll make it my pride,
The best of all boot-blacks to be;
And if only a boot-black, no boot-black on earth
Shall blacken an old boot like me."

Antonio Alia, otherwise "Tony the Boot-black," has been called to serve his adopted country and he will serve it well.

Before leaving for camp he came to give his farewell service to the office whose people he said he loved and whose people he said had been "so good" to him.

There are more than a hundred in the Dixon Office, nearly all of whom have been served by him, and to each one he gave a shine,—it could not be refused, for if you said, "Never mind, Tony, wait until you come back," or "I don't think I need it," he replied, with a quaver in his voice: "Please, don't turn me down," and not a cent would he take for the service. Furthermore, he again returned with a cake of chocolate for each young lady, and a cigar for each man.

His sense of duty and service would have been complete could he have found President Smith in. When told that the President was not in, and would not be, as he, too, was

serving his country as Treasurer of the Shipping Board, he said: "Please, won't you please tell him, he one great friend of mine, and I am so sorry I cannot bid him good-bye; but I shall think of him always, and of all the Dixon Company, who have been so good to me." Then in a manly and most gentle manner Tony backed from the President's room with a very low bow, crossing himself the while.

The good wishes and prayers of all the Dixon Office, Tony, are yours, and may you safely return.

CARR, RYDER & ADAMS CO.

BUILT & WELL
MILL WORK

DUBUQUE, IOWA.

July 17, 1918.

Joseph Dixon Crucible Company,
Jersey City, N. J.

Dear Sirs:

With regard to Dixon's Eldorado drawing pencils, will state they are giving us better satisfaction than any pencil we have ever used, even better satisfaction than the best of the imported pencils. Our salesman and Estimating Department use the 3-H pencil for 3-copy work on our estimating and order blocks. Our Special Order Dep't. uses the 2-H for 1-copy work, and the writer has found from actual tests that these pencils are cheaper in the long run than even a good grade of pencil costing \$4.50 and \$5.00 per gross.

We might add that we have some fifty people in the office who use these pencils the greater part of the time.

Yours truly,

Carr, Ryder & Adams Co.

FRG/G

F. G. Geary
Purchasing Agent.

Standardization of Dixon's Pencil Line

IN compliance with the request of the Conservation Division of the War Industries Board of the United States Government, we have reduced our line of Dixon's Pencils to less than 25% of the number of styles that we made three years ago.

In our standardization we have also shortened the metal tips and rubber plugs on most of our rubber-tipped pencils, to conserve brass and rubber. In addition, we have made a good many changes in our packings.

The purpose of this standardization, which policy the Government is making effective in nearly all industries, is to conserve labor and materials. By reducing the operations in our factories to a minimum, it is hoped to increase our production to a maximum with the available supply of labor.

We are very sure, therefore, that the public will be in full accord with our action, especially as there will remain in the Dixon line an ample assortment to satisfy every practical need.

We are anxious to cooperate not only with our distributors, but also with the consumers of Dixon's pencils in connection with this standardization of the Dixon line. Where a consumer has been in the habit of using a certain style of Dixon pencil which is no longer available—and we shall be glad to send a list of those styles that are available upon request—we shall be pleased to suggest which of our present styles will best suit his needs, and also to send samples if desired.

We desire to make public announcement that in withdrawing from the market many of our styles of pencils as a war measure, and upon the request of the Government, we are not relinquishing any of our trade-mark or good-will rights, and are informed that we will be fully protected therein.



Tank, Ward Motor Vehicle Co., Mount Vernon, N. Y.

HERE is intrepid "Steeplejack" Kay of Mamaroneck, N. Y., standing on top of the tank of the Ward Motor Vehicle Co., and waving an empty can of Dixon's Silica-Graphite Paint.

Steeplejack Kay has just got through painting the tank with Dixon's Paint.

Owners of plants as well as steeplejacks prefer Dixon's Silica-Graphite Paint for the reason (as Steeplejack Kay writes): "Dixon's Silica-Graphite Paint is tip-top; puts it all over any paint for roofs, water tanks, and all exposed metal or woodwork."

You save in labor and material when you use Dixon's Paint because you do not have to paint so often. This tank of the Ward Motor Vehicle Co. was painted two years ago with Dixon's Silica-Graphite Paint and is in fine condition.

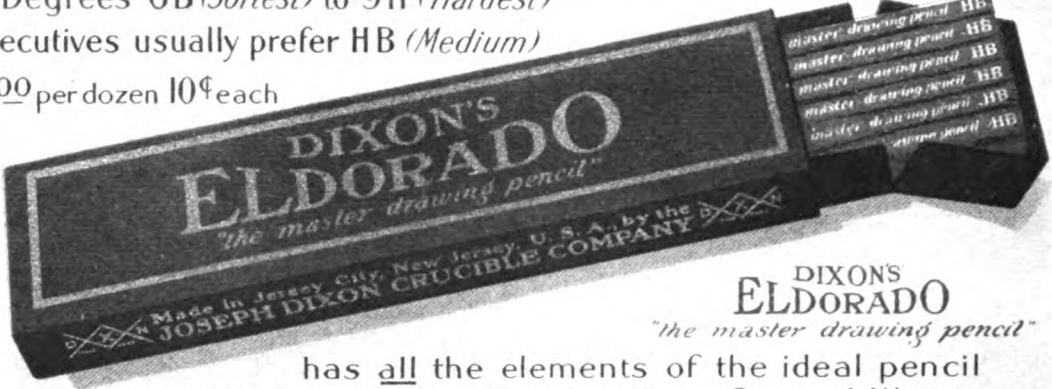
Write us for LONG SERVICE records.

◆ ◆ ◆

Dixon Graphite Brushes prevent sparking and wear of commutator. They are tough and strong and if properly adjusted have long life. Their losses from friction on the commutator are less than carbon brushes and the commutator is always automatically lubricated.

"We entered this war a soft, fat, luxurious people—we are becoming already hard and lean and fit! We are the most prodigal and wasteful of nations—and, of our own free will, are daily growing thrifty, careful and economical."

17 Degrees 6B (Softest) to 9H (Hardest)
 Executives usually prefer HB (Medium)
 \$1.00 per dozen 10¢ each



**DIXON'S
ELDORADO**
"the master drawing pencil"

Made in Jersey City, New Jersey, U. S. A., by the
 JOSEPH DIXON CRUCIBLE COMPANY

has all the elements of the ideal pencil
 for Drawing, Accounting, Shorthand and General Writing
An American Achievement

For Sale by

Eldorado pencils are easy gliding, long wearing—time saving

This handsome Eldorado blotter, printed in two colors and gold, is furnished to the trade imprinted with dealer's name and address

What Educators Think of

**DIXON'S
ELDORADO**
"the master drawing pencil"

STATE NORMAL SCHOOL
 OSHKOSH WISCONSIN

July 27, 1918.

Joseph Dixon Crucible Co.,
 Jersey City, U.S.A.

Gentlemen:-

Until this last year I was autocratic enough to decide for my students what brand of drawing pencils they were to use. Last year when making up my list of supplies the thought came to me that since these students of mine were teachers in the making and would soon be obliged to make up their own list of supplies for their own classes that perhaps it would be a good plan for them to decide what "make" of pencils and erasers and other similar articles they would use by their own experience rather than by taking my opinion for it altogether.

With this thought in mind I purchased a small stock of such goods of each of the leading brands. I then had the new students all buy of one brand first, then when they came the second time I gave out the second brand, and so on throughout the year. Among the kinds of pencils given out was the Dixon Eldorado against which not a complaint was registered but on the other hand had many words of praise spoken in its favor. Several said, "Why did you not give us this one first?"

I have been well pleased with the results of the experiment and believe the students will be able to decide very easily just what brands of materials they will want to use in the future. And what is better they will not be obliged to take their teacher's word for it alone.

Very truly yours,

Earl H. May

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**The School District of the City
 of Easton, Pa.**

OFFICE OF THE SECRETARY, 30 NORTH SECOND STREET

EASTON, PA.

July 19, 1918.

Joseph Dixon Crucible Co.,
 Jersey City, N. J.

Dear Sirs:

Since you persuaded me to order the Eldorado pencils, I think it only right that you should know that they have exceeded even your talking points. Mechanical drawing takes on a new phase with the use of these good American made pencils. The quality was recognized immediately, particularly by the night school men, many of whom had procured other brands, which were put aside at once in favor of the Eldorado. There was no waste and the quality of lead is remarkably uniform.

I want to thank you for having put me in touch with these pencils.

Very sincerely yours,

A. J. Blount

GENERAL TRAINING AND MECHANICAL DRAWING
 CHELSEA PUBLIC SCHOOLS

MANUAL AND CONSTRUCTIVE ARTS
 TEACHERS' COLLEGE, TEMPLE UNIVERSITY

MANUAL AND INDUSTRIAL ARTS
 SUMNER SCHOOL, U.

C. E. KARLSON
 ELKINS PARK, PA.

Joseph Dixon Crucible Co.,
 Jersey City, N. J.

Gentlemen:

The fact that we are again ordering our full supply of pencils from you, without any solicitation on your part, can mean but one thing, that we are satisfied.

Did we know of any better pencils, we would without doubt secure them, for we want the best. It is particularly pleasant at this time to be able to secure such pencils as Dixon's ELDORADO and to know that they are the pure American product of an American manufactory.

You deserve great credit for producing "The Master Drawing Pencil" and the American Youth is to be congratulated in having the privilege to use the American "Eldorado".

With best wishes for the success you deserve, I am

Very truly yours,

C. E. Karlson

Samples Require Export Licenses

THIS is to advise our friends and customers in foreign countries that every sample, no matter how small, which is sent out via mail, whether enclosed in a letter or under separate cover, or sent by express or otherwise, must be covered by an export license when consigned to any foreign country.

As the number of requests made on the Government Bureau at Washington for licenses for regular shipments is so great, it is practically impossible to secure licenses for small and inconsequent samples.

Therefore, we are unable to mail even a single lead pencil without securing a license, and we ask our friends kindly to refrain from asking for small samples of any of our products until after the end of the war.

An Autumn Offensive

WAR in these days is conducted on so vast a scale that every major operation, whether financial or military, must be planned months in advance.

Far behind the lines, in Berlin, Hamburg and other financial centers of Germany, the enemy financiers last winter prepared the Eighth Tyranny Loan, which brought in \$3,600,000,000 in money of one sort or another this spring. To-day they are getting their people in line for the ninth loan, and, if they work on schedule this time, the Germans will be floating the ninth issue about the time the Government of the United States offers the Fourth Liberty Loan to Americans this autumn. Thus both nations will be tested at the same time and the American dollar will compete with the German mark. But this Government plans the greatest loan of history. It is expected to be twice as much as the Eighth Tyranny Loan and a billion more than Great Britain's Victory Loan of \$5,000,000,000, which is the largest yet floated in any country.

So stupendous an undertaking as the Fourth Liberty Loan requires the most careful planning on the part of every American, of whatever age or condition of bank roll. The time to meet the call of the Fourth Liberty Loan is now, and the way to meet it is by preparing a programme of saving. The Germans are busy right now on their loan. Are you preparing for yours? To be thrifty and forehanded at this time is the task of every American who wishes to take part in Uncle Sam's financial offensive next autumn. To conserve resources, not only of labor and materials, but also of credit and cash, is to perform a war service of the first magnitude.

Dixon's Girls Win

THE girls in the factories and offices of a number of Jersey City manufacturing concerns on July 8, 1918, organized under the direction of the Y. W. C. A. the Girls' Athletic Club of Jersey City. They have arranged to hold their meetings at West Side Park several nights a week for athletic games and training.

On Monday and Wednesday evenings baseball, tennis and group games are played, while on Friday evening military drill and calisthenics are held, and early in the evening singing, including patriotic songs.

The first night, July 8th, the Dixon girls won first place and a banner for their drill work. Later in the evening in the races Miss Eva Slapkoska won first place in the potato race, Miss Mary Bolicki won first in the fifty-yard dash,

Misses Eva Chuchea and Mary Bolicki won the three-legged race, Misses Clara Barrett and Isabelle Stewart won the relay race, and Miss Bessie Wotman won the thin and fat race.

Attention, Chemists!

DO you know how long it takes to heat liquid through a sand bath? Many perfectly good hours and many cubic feet of gas are wasted every week trying to force heat through a poor conductor. It is like trying to raise steam in a boiler heavily coated with scale.

Chemists who are familiar with the effect of mixing flake graphite with the sand are conserving fuel and time, so we pass the tip along to you.

By actual test in our laboratory it required 34 minutes to bring 100 c.c. of water at 24°C. to the boiling point when the bath contained equal parts of sand and Dixon's Flake Graphite. When sand alone was used, all other conditions being the same, the time was 1 hr. 15 min. This shows that the time and fuel can be reduced more than 50% by mixing flake graphite with the sand.

This may seem like a small matter, but it is worth adopting.

More Evidence from Racers

THE two telegrams reproduced below are only more evidence of the value of Dixon's Graphite Automobile Lubricants to racing drivers and others:

EDMONTON, ALBERTA, July 14, 1918.

JOSEPH DIXON CRUCIBLE CO.:

Dixon's Automobile Lubricants helped Jules Ellingbee win midnight sweepstakes, great annual automobile race in connection with Edmonton exhibition. This race is run late at night under light of midnight sun, and forty thousand people saw contest. Sig Haugdahl, Norwegian racing champion, equalled world's record for a half mile and came within fifteen hundredths of a second of world's record for mile. One Eskimo, the only one in the world owning a pleasure car, drove over thousand miles to see the races.

J. ALEC. SLOAN, *Racing Mgr.*

UNIONTOWN PENN

JOSEPH DIXON CRUCIBLE CO.

IN THE INDEPENDENCE AUTO DERBY HERE TO-DAY FIVE EVENTS WERE RUN. EVENT NO. 1 FIVE-LAP RACE BETWEEN RALPH MULFORD AND EDDIE HEARNE, LATTER WINNING. EVENT TWO AUSTRALIAN PURSUIT RACE, DENNY HICKEY WINNER. EVENT THREE MATCH BETWEEN CHEVROLET AND MILTON, FORMER WINNING. EVENT FOUR INTERNATIONAL MATCH RACE FOR WORLD'S TITLE BETWEEN OLD-FIELD AND DURAY, FORMER WINNING. EVENT FIVE 112½ MILE RACE CHEVROLET WINNER. EVERY WINNER EXCEPT ONE USED DIXON'S AUTO LUBRICANTS THROUGHOUT.

S. R. BUXTON.

Booze and Smokes

ONE side line that has been thrown over by pretty nearly all salesmen representing first-class houses to-day is booze. Gradually the selling fraternity have demonstrated to their own satisfaction that one cannot carry booze as a side line and make good with the main line. The man who had to stop and tank up before he could go over the top with a sales attack has gone under, and on top are the clean-cut fellows whose tongues are clean and wag wisely and not too much.

I don't know as I would call tobacco a side line in the sense I call booze one, but I know salesmen who practically make it one. They always have a cigar burning. When they go into a man's office to see him, they lay the cigar on the rail outside. If he smokes, they offer him a cigar, which is probably all right, if it's a good cigar. If he doesn't smoke, they may refrain from filling his office with tobacco smoke, but they may carry with them an odor of tobacco breath that is worse than cigar smoke.

Smoking is a pleasure, not to say a luxury. Whether it is necessary for the salesman or not, it should not be mixed with his work. If smoking directly or indirectly interferes with work, don't give up any part of the work, give up some of the smoking. — *Mill Supplies.*

Chop Sticks

WHENEVER we think of chop sticks we think of the chop sticks used by the Chinese and Japanese for eating. We think they are used for eating only.

A pair of iron chop sticks is used to pick up live coals; the cook uses a pair to turn her fish or cake. The jeweler uses a delicate pair of ivory chop sticks in putting together a watch, and on the

street one can see the rag picker with a pair of chop sticks three feet long with which he picks up rags, paper, etc.

It may well be said that things are more or less topsy-turvy in Japan.

The Japanese strikes a match away from him.

The Japanese begins to read a book at what we would consider the last page.

Cake and candy are offered first at the Japanese dinner.

The Japanese prefers hot water to cold for drinking.

ment drafting every able-bodied man that we secure. We know that when we order Dixon's pencils our troubles so far as pencils are concerned are at an end.

Very sincerely yours,
(Signed) F. R. DARLING,
Supt. of Schools."

The Two Ways

SOME people pay 50 cents to see a moving picture show in a swell theater, while others pay 10 cents to see the same reels in another place.

Our public schools are the best in the world and perhaps children can get a better education in them, yet some parents think a private school better and pay the price.

Some doctors charge two dollars a visit, while others with a wider reputation charge ten dollars and administer the same pill.

Some want music with their meals and up goes the price for meals in that place to help pay the fiddler.

Some people go to cheaper restaurants to eat, while many go to the other places to

show themselves and eat lobster.

THE *New York Times Annalist* calls our attention to something unique in the financial history of Japan. Japan has never, since 1877, produced a deficit. In 1883 and 1884 the budget balanced to a yen, and barring these exceptions the National accounts succeeded in showing a continued and unbroken surplus ranging from a nominal \$86,000 to a maximum in 1907 of \$127,000,000.

WHITE is a much cooler color than black, as a person attired in black and exposed to the sun's rays is subjected to a temperature fully 10 or 15 degrees higher than a person dressed in white.

Ain't It Discouragin'?—Hopkins



A horse is backed into his stall in Japan the same as we back our fire horses into their stalls.

The Japanese carpenter planes and saws toward himself: a Western carpenter works away from himself.

A Kindly Tribute

THE following is an extract from Mr. F. R. Darling's letter of July 10, 1918. Mr. Darling is superintendent of Public Schools, Dunkirk, N. Y.:

"The changes that you have made in our order are perfectly satisfactory. I appreciate the difficulty which any manufacturer must be facing these days. We have a few troubles ourselves, with the Govern-

The Yearly Toll of Friction

THE following article from the July 17th issue of the New York Globe is of particular interest to automobile owners:

"The yearly toll paid by automobile owners to friction, if figured out to dollars and cents, would amount to millions. This tax, according to experts, can be reduced to a fraction of its present amount by proper attention to lubrication. To do this the car owner must be made to realize that he pays in loss of power and upkeep cost when he fails to get the right antidote for the wear and tear caused by metal contact in bearing surfaces. The Joseph Dixon Crucible Company has offered a series of graphite automobile lubricants which they claim will solve the problem by providing a permanent film of graphite which effectually separates the two surfaces. The Dixon Company mines its own graphite and uses only a carefully selected flake variety."

Dixon's Furnace Cement is a highly refractory cement for the repair of worn or cracked furnace linings. Its use prevents delays and saves expensive repairs by stopping the rapid destruction of linings after they have become cracked or worn.



Run Up Mileage

More miles from your gas per trip—more miles of steady running in a season if you use

DIXON'S
GRAPHITE
Automobile
LUBRICANTS

Specially selected flake graphite that keeps metal surfaces from grinding contact. They stay longer and work better as a wear-preventer than any other lubricant.

Ask your dealer for the
Dixon Lubricating Chart

JOSEPH DIXON CRUCIBLE CO.
Jersey City, New Jersey
Established 1827

GOLDEN BOUQUETS

OR WHY

**DIXON'S
ELDORADO**

"The Master Drawing Pencil"

SHOULD BE USED

What Prominent Educators say:

"I REQUIRE two qualities in a lead pencil for my pupils and my own use. Responsiveness is the first requirement, and accuracy in grading the second. And because I have found no pencil which equals it in these two essentials, I recommend and order Dixon's ELDORADO, rightfully named 'the master drawing pencil.'"

"THE war has made us do many things better than we ever did them before. You are to be congratulated that, for your part, you have bettered your previous best by producing 'the master drawing pencil,' which, taking all things into consideration, is a contribution to be proud of toward winning the war."

"I WOULD heartily recommend the use of all Dixon's pencils, especially 2B. It's as flexible as a brush."

"I HAVE tested the ELDORADO pencil along with the — and can see little to choose between them, the ELDORADO being, if anything, smoother than the —."

"Personally I am very glad that we have an American pencil which can compete on equal terms with the Austrian."

"DIXON's No. 331 should be on hand."

"ELDORADO pencils are smoother than even the —, and all a pencil should be."

"WE will recommend ELDORADO-Dixon pencils in mechanical drawing."

"I HAVE tested the ELDORADO pencils in grades used in making engineering drawings and details and find them equal or possibly better than any other pencil used."

"YOUR ELDORADO lead pencils proved to be very excellent pencils in every respect for drafting requirements. I will be pleased to recommend your product at the time the next budget for drafting supplies is compiled. I embrace this opportunity to say that I am glad our U. S. A. can produce good drafting pencils."

From two Artists:

"I HAVE enjoyed using your ELDORADO pencils. They flow so easily that there is almost a feeling of annoyance when using a poorer brand."

"PENCILS great. Will specify ELDORADO when I order hereafter."

From an Insurance Company:

"I HAVE found your pencils very satisfactory—particularly for my purpose, the master drawing pencil No. 3H. I do not know whether the — Company handle Dixon pencils, but if not I presume they could be procured from some other stationery store here."

A Machinery Manufacturer writes:

"REGARDING the results of our trial order of ELDORADO pencils, would advise that upon inquiry of the members of our engineering force, we find your pencils are giving universal satisfaction. We congratulate you upon the results obtained in producing a 'Made in America' pencil."

A Mining Engineer writes:

"WILL say that I have been using your ELDORADO drawing pencils exclusively for the last year and find them satisfactory. Very glad to have the privilege of recommending your products."

From an Editor:

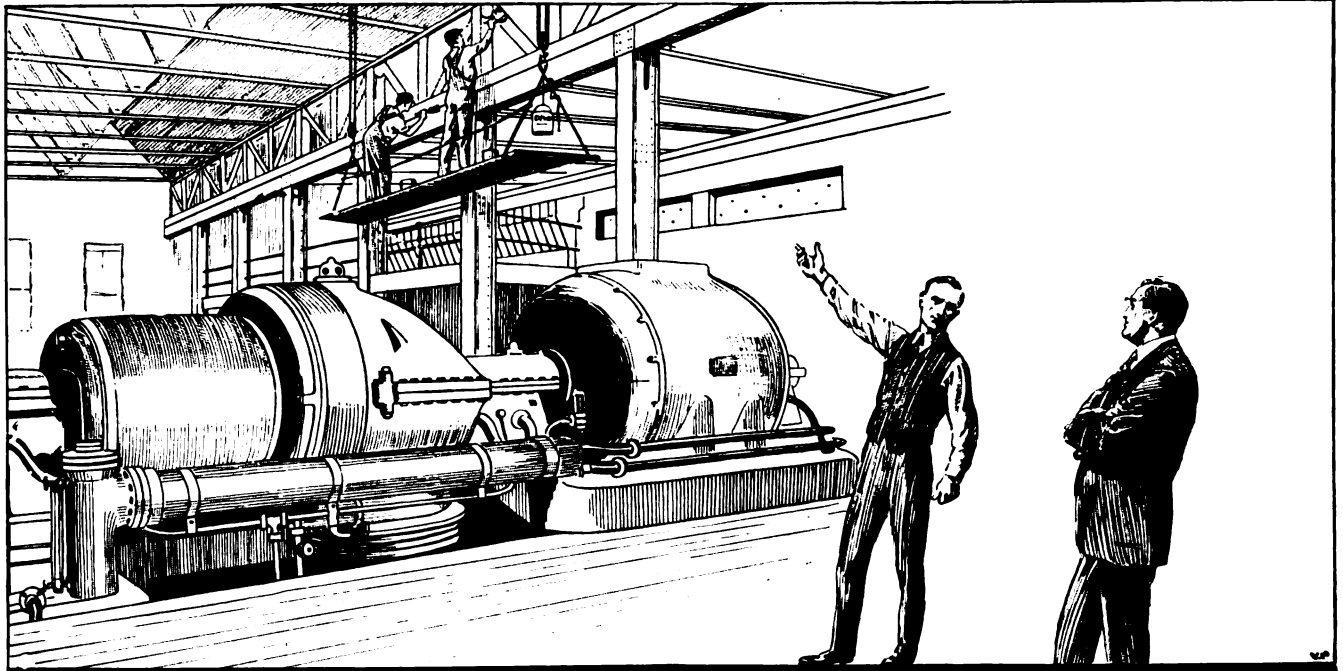
"I HAVE but one fault to find with ELDORADO pencils—they leave me much averse to any other make of pencil and have almost divorced me from the prosaic typewriter."

From a Manufacturer:

"WE are very much pleased with the Dixon ELDORADO pencil and we shall with pleasure purchase same from our stationer."

From a Public Service Corporation:

"PLEASE accept my thanks for the samples of ELDORADO pencils recently sent me. I find them to be all that can be desired in a pencil, and only hope I shall always be able to obtain ELDORADO pencils."



“Speaking of Paint, Here’s Some Real Economy”

“The biggest item of expense in any painting job is labor. It didn’t take me long to learn that.”

Never did the Chief seem more sure of himself. The G. M. listened with keen interest.

“That being true, it is a cinch that the paint that lasts the longest is the cheapest. The Dixon people claim that their Silica-Graphite Paint is the longest service paint. My experience with it proves that they are right. All the metal work of this plant is painted with it. I’ve been saving money a good many years by using it.”

A great many power plants are doing the same thing. Booklet 190-B gives the facts about Dixon’s Silica-Graphite Paint. Write in for a copy while you have it in mind.

Made in JERSEY CITY, N. J., by the

Joseph Dixon Crucible Company



Established 1827



THE DE VINNE PRESS
NEW YORK

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Geology N. H. L.

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OCT 10 1918

Graphite

VOL. XX

OCTOBER, 1918

No. 10



"The lubricant that has the quality to stand the strain of racing has my endorsement. That is why I use Dixon's Graphite Automobile Lubricants."

Dixon

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JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868



**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**



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WILLIAM G. BUMSTED EDWARD L. YOUNG
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ATLANTA OFFICE 225 Peachtree Street

EUROPEAN AGENTS

Graphite Products, Ltd., 918-990 Queen's Road, Battersea, London

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FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

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*With Branch Houses in Mexico, Cuba, Peru, Argentine,
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FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

A. R. MacDougall & Co., Ltd., 468 King St., West, Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.

How to find the right pencil

You have run across a pencil now and then that suits you to a T—makes your work easier, quicker, more satisfactory. Why not be sure of getting such a pencil every time?

DIXON'S ELDORADO

"the master drawing pencil"

has strong, firm leads that save a lot of resharpening—smooth responsive leads that write with much less effort. Made in 17 degrees—6B (softest) to 9H (hardest). HB (medium) is most popular for general work; but be sure to get the degree *exactly* suited to your work.

How to find your grade

With the aid of the chart below, select the grade you think you should have. If the first is not exactly right, next time select a degree or two softer or harder as the case may be. When you have found *your* degree, specify it every time and you will be assured of satisfaction from then on.

6B } Varying degrees of
5B } extra softness—6B
4B } softest.
3B } Extra soft and black.
2B } Very soft and black.
B } Soft and black.
HB } Medium soft.
F } Firm.

H } Hard.
2H } Harder.
3H } Very hard.
4H } Extra hard.
5H } Varying
6H } degrees of
7H } extra
8H } hardness.
9H }

Write us which degree you want, or what kind of pencil work you do, enclosing 16 cents in stamps, and we will send you full-length samples worth double the money.

JOSEPH DIXON CRUCIBLE CO.

Dept 190-J

JERSEY CITY, N. J.

ESTABLISHED 1827





THE *American Machinist*, in introducing some special correspondence on the above subject, says:

"The war has brought many changes, but none which seems destined to play a larger part in future development than the changing relations between capital and labor. Those who have studied the question seriously believe it is necessary for progressive business men to join hands with the more conservative labor men in working out a sane and rational labor policy. Unless this is done, grave consequences may follow. Conservative thinkers like Justice Hughes and ex-President Taft believe that it is necessary to change many of our ideas regarding industrial relationships."

The *American Machinist* then goes on to say that no one who is interested in the welfare of the country, and that means every right-thinking individual in any walk of life, can afford to overlook the relations between capital and labor in all parts of the world. We can gain nothing by shutting our eyes to the facts—and we may lose much.

The report of the Federal Commission of Mediation shows plainly that we are facing a new era, and the report may be summed up in six counts:

1. The elimination of profiteering during the war as absolutely necessary to the morale of industry.
2. A form of collective relationship between management and men (and they advocate the recognition of this principle by the Government as a part of the labor policy of the nation).
3. The adoption of the eight-hour day with suitable remuneration for overtime.
4. A single-headed labor administration with full power to establish the necessary organization. This is already under way, with Secretary Wilson as its nominal head.

Significant Changes in Business Management

5. The education of labor to the causes and aims of the war and in the broader relationships with capital.

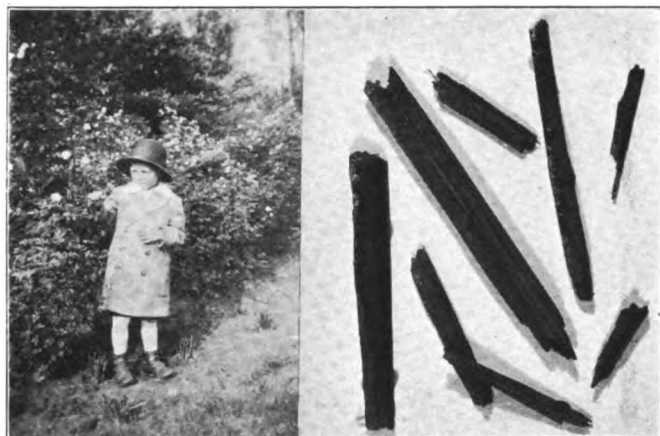
6. The education of employers to the essentials of the modern labor policy and its broader relations with its employees.

The *American Machinist* also adds that there may also be something significant in the new laws of Maryland and New Jersey, which make idleness of healthy adults a crime unless it is temporary as the result of some labor dispute. Production is the order of the day, and we may be sure that the workers will not see this law enforced against them and not against those who have no visible means of support but a bank account.

Both sides must understand that all who work and assist production must be classed as labor, whether they also have a capital invested or not, and that those who invest only capital and do not assist in production deserve far less return than those who actually assist in production, no matter in what capacity.

There are men who understand capital and business thoroughly, but who have come to think of their business as a strictly private affair, which privileges them to do exactly as they please without regard to the effect on the community or on its individual members. They very seldom use the pronoun "we"; they always use the pronoun "I," and the bigger they can make the "I," the better pleased they seem to be. They speak of "my note," "my factory," "my men," "my salesmen"; and when they deal with their men, it is always "I will" or "I won't."

The article from which we have quoted and commented upon is well worth the reading by manufacturers, business men and those who hold executive positions. It appears in the *American Machinist* of August 1st.



Lead Pencil a Life Saver

ON July 18th Wilmer Joergensen, the five-year-old boy shown in the accompanying illustration, found a dangerous plaything in his home at 197 Delaware Avenue, Jersey City, in the shape of an old 32-caliber revolver. The revolver was minus its center pin and the spring controlling the hammer was broken. Nevertheless, the little boy contrived in some manner to explode one of the three cartridges which had been left in the chambers. His first act, however, had been to insert a pencil in the muzzle of the revolver, and this pencil, entering the boy's left eye and destroying the sight of the eye, nevertheless saved the little chap's life, as the bullet, which would otherwise have entered the brain, was deflected by the pencil and buried itself harmlessly in the wall. Fragments of the shattered pencil are shown in the accompanying cut.

A Pacific Coast Lighthouse

Eleven Years' Paint Service

MR. W. H. WANNER, representative of the Dixon San Francisco Sales Office, has made the following report on the eleven years' service given by Dixon's Silica-Graphite Paint on the lighthouse buildings at Port Oregon, Oregon:

"The United States lighthouse inspector has two buildings which are fifty feet wide by one hundred feet long, with regular gable roofs which were painted eleven years ago with Dixon's Silica-Graphite Paint, and, from present indications, will not require repainting for three or four years to come.

"These buildings are located at what is known as Tongue Point Lighthouse Depot at Tongue Point, Oregon, three miles from Astoria, Oregon.

"The paint is subject to salt air, sea air, and other severe conditions, and the long service it has given has convinced those in the department interested in painting that there is only one paint, and that is Dixon's Silica-Graphite Paint."

Dixon's Paint is doing its bit for the Government when it gives eleven years' service.

When next you repaint exposed metal or wood surfaces, do "your bit" by using Dixon's. It will cost you the least *per year* of service for labor and material because it LASTS LONGER and endures severe weather.

The section of the country where this government lighthouse is located is very rainy and damp.

◆ ◆ ◆

"THAT man is most truly happy and complete master of himself who waits the morrow without anxiety."



Dixon Special Representative in Canada

THE Dixon Pencil Department interests in Canada, from a sales standpoint, are in the hands of Messrs. A. R. MacDougall & Co., at 468 King Street, West, Toronto, Ont., who are manufacturers' representatives for merchandise going to the stationery trade. Mr. A. R. MacDougall, who is the head of this live organization, recently held a convention of his entire sales staff, and on this occasion Mr. A. J. Pfaff, Special Representative of the Pencil Department of the Dixon Company, went to Toronto to exchange views affecting the Dixon pencil business with Mr. MacDougall and his staff.

The photograph reproduced herewith, taken at the beautiful Mississagua country club, shows that other things than pencil discussions were indulged in. In the photograph, reading from left to right, will be seen Mr. MacDougall, Mr. Bishop, Mr. Pfaff, Mr. Huber and Mr. Haviland. When the photograph was taken the other members of Mr. MacDougall's staff, including Mr. Laing, Mr. Ottey, Mr. McCrimmon, Mr. Weisner and Mr. Boynton, had not yet arrived. The MacDougall sales organization, just like the Dixon sales organization in the United States, is highly enthusiastic over the rapid development of their business in Dixon's ELDORADO—"the master drawing pencil," and they all voice the same sentiment, to wit, that when a customer is once sold on the ELDORADO, he remains sold.

More Evidence for Dealers

HERE is just a little more evidence that enterprising dealers in automobile supplies should handle Dixon's Graphite Automobile Lubricants.

The following letter is one from the Lowe Motor Supplies Co., New York City:

"We are to-day handling more Dixon's Graphite Automobile Lubricants than all other kinds combined.

We attribute our success with your lubricants to the following facts:

Good goods.

Liberal advertising.

Your policy of coöperating with the dealer.

We have entire confidence in the Dixon Company and its products and appreciate the assistance we receive, and are willing to coöperate with you at all times.

LOWE MOTOR SUPPLIES CO.,

F. LOWE, Pres."



Dixon-Fisk Bicycle Club

Arthur Duray and His Camouflaged Car

OUR cover this month shows the well-known racer Arthur Duray and his camouflaged car.

Arthur Duray usually passes off as a Frenchman but in reality he is a Belgian, though he might claim to be an American as he was born in New York City. Most of his life, however, has been spent in France.

Everybody who knows Duray likes him. He is a big, hearty, fair man, who does not seem to have a care in the world and who will put a car through a long race with the dash and vim of a boulevard trip.

Duray has been racing for a number of years and has to his credit a number of victories. One of these is the distinction of having traveled faster in an automobile than any one else. He established the world's kilometer record of 142.9 miles per hour at Ostend with a 300 horse-power Fiat.

For the last several years he has been on the other side, but this summer he has been able to come here and appear on the various tracks in America.

Here is what he says about Dixon's:

"Racing develops more lubrication trouble than anything else. The lubricant that has the quality to stand this strain has my endorsement. That is why I use Dixon's Graphite Automobile Lubricants."

Dixon's Graphite Axle Grease

IN these days of auto trucks very little is heard of axle grease. Nevertheless there is an axle grease made that is acknowledged the most durable, the most economical, the cleanest and the most satisfactory. This grease is Dixon's Graphite Axle Grease.

It has been on the market for about forty years and among the users of it are some of the largest livery stables, breweries, trucking concerns and fire companies.

One engine company says that they have made from thirty-six to forty and in one instance fifty runs on one greasing. With other greases they averaged only six runs to each greasing.

With Dixon's Graphite Axle Grease only about one-quarter the amount usually used is required. Here is a letter that bears us out in this. It is from Miller Bros., Inc., Lumber Dealers:

"We note that the prices are higher than when we bought three years ago. However, the expense even at the present price is very small when we consider that we have kept from eight to ten wagons greased for three years with 50 pounds of your grease."

(Signed) MILLER BROS., INC.

Dixon's Helps Winners

DIXON'S Graphite Automobile Lubricants are considered by racing drivers as one of the essentials of their racing equipment. Practically every racing driver for several years past has sworn by Dixon's as the best lubricant for automobiles, not only for speed but for use under everyday conditions.

Below we are glad to show two more pieces of evidence that they are still of the same opinion:

"Lincoln, Neb., September 2, 1918.

With the aid of Dixon's Graphite Automobile Lubricants, Sig Haugdahl, driving a Fiat, set a new world's record for the one and two mile distances over a half mile track here to-day in the races which opened the Nebraska State Fair. Endicott, also using Dixon's, won the Nebraska Sweepstakes.

HUFF DORWARD."

"Uniontown, Pa., September 3, 1918.

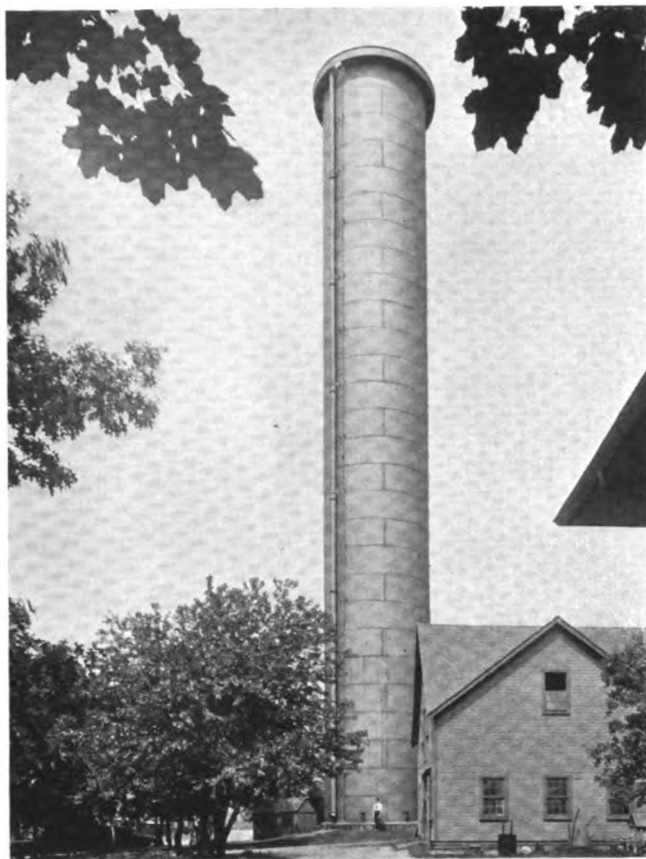
One hundred and twelve mile race finished in the following order: Mulford, Chevrolet, Toft, Duray. Every driver used Dixon's. Mulford says, 'Dixon's did it.'

J. H. AMORY."

◆ ◆ ◆

"Unless the manufacturer gives evidence to his salesmen, and to the distributors of his goods, that he, of his own accord, is doing his utmost, in a national way, to build up a market for his goods through advertising, he has no excuse in the world to ask local distributors to help advertise his goods and to help carry his end of the burden."

Dixon's Motor Graphite is prepared especially for the lubrication of the motors of automobiles, motor boats and motor cycles. Its use increases the general efficiency of the motor and saves wear and tear by forming a smooth unctuous veneer of graphite over the moving parts that prevents metal-to-metal contact.



**Standpipe, Qucensboro Water Company,
Far Rockaway, N. Y.**

THE structure illustrated shows the standpipe owned by the Queensboro Water Company. The structure is 140 feet high and 20 feet in diameter. The owners applied two coats of Dixon's Silica-Graphite Paint on the interior and exterior of this structure three years ago, and the standpipe is still in excellent condition and repainting not necessary.

Dixon's Silica-Graphite Paint is popular with water concerns because it does not taint the water (the pigment is as pure and harmless as charcoal) and because it *LASTS LONGER* on metal and saves in yearly cost for labor and material. Therefore Dixon's Paint is the lowest cost paint *per year*. Remember it is specially suited for and widely used by water companies the world over. Made in *FIRST QUALITY* only for over 50 years.

◆ ◆ ◆

THEY'RE telling this one up north:

An Irish soldier, ignorant but deeply religious, found himself in need of money to spend while on furlough, so he wrote a letter to God, asking for \$20, and mailed it in a nearby Y. M. C. A. hut. The secretary was touched by the appeal and sent him \$10. The soldier went to Paris, where there was so much to see and do that he soon spent the money. Here is the second letter he wrote to God:

"Dear God: I am sorry to trouble you again, but I find I need \$20 more. And please send it through the Knights of Columbus this time. The Y. M. C. A. took half of the last remittance."

"ELDORADO"

ELDORADO is the name of a Dixon lead pencil made in seventeen degrees of hardness of leads.

The birth of this pencil was in 1914. Its mission was to take the place of the Austrian and German pencils so generally used in the Drafting Rooms and Art Studios in this country prior to the outbreak of the War.

We are glad to be able to say its mission has been more than fulfilled. Dixon's ELDORADO is to-day acknowledged by engineers, draftsmen and business men as "the master pencil"—the finest the world has ever known. The wide range of seventeen degrees of hardness of leads gives a choice that meets every possible requirement.

The name "Eldorado" is a fabled one. El Dorado was the fabled king of an equally fabulous Indian city, long supposed to exist somewhere in the northern part of South America. In its most definite form the story described a lake in which was an island with a city marvelously rich in gold, silver, and precious stones. The chief or "king" of the city was daily or periodically anointed with thick oil, in which gold-dust was stuck until he appeared to be covered with the metal. This king was "El Dorado," the gilded one, of the Spaniards.

It is said that the Indians about the sacred lake of Guatavita, in the Bogota highlands, celebrated a strange yearly sacrifice. "On the appointed day, the chief smeared his body with balsam and then rolled in gold-dust. Thus gilded and resplendent, he entered a canoe, surrounded by his nobles, while an immense multitude of people with music and songs crowded the shores of the lake. Having reached the center, the chief deposited his offerings of gold, emeralds and other precious things, and then jumped into the lake to bathe."

There are as many wonderful legends and stories of "El Dorado" as there are good things said of Dixon's ELDO-RADO.

A new book by Clifford Smyth, "The Gilded Man," a romance of the Andes, takes us over the legendary grounds of El Dorado, as the hero goes to Bogota, Colombia, to attempt a solution of the mystery of Lake Guatavita, wherein, as we have already told, the king yearly cast in the gold and jewels.

Clifford Smyth's book is said to be a masterpiece, not only as a feat of imagination, but in its power to compel the interest of every degree of intelligence.

It can also be said with truth that Dixon's ELDORADO is a masterpiece, not only as a feat of workmanship in pencil making, but in its power to compel the interest of every class of pencil users.

The Havana Inventor

AHAVANA inventor has gotten up a device to stop auto accidents. When running 15 miles an hour a white bulb shows on the radiator-top; at 25 a green bulb appears; at 40 the light turns red, and, when the chauffeur is hitting her up at 50 or over, a music box under the seat plays "Nearer, My God, to Thee!"

◆ ◆ ◆

Dixon's Furnace Cement is a highly refractory cement for the repair of worn or cracked furnace linings. Its use prevents delays and saves expensive repairs by stopping the rapid destruction of linings after they have become cracked or worn.

"ONE cannot do a wrong act against another without paying the penalty; natural action or reaction in such cases is sure."

Dixon's Silica-Graphite Paint on Sugar Plantations

WE reproduce the following extracts taken from testimonial letters received from engineers and managers of sugar plantations in the Hawaiian Islands.

One chief engineer writes:

"We find Dixon's Silica-Graphite Paint stands up better than any other paint that we have tried and it also goes further.

We find it the best paint for all exposed surfaces that are subject to the peculiar climatic conditions of the Hawaiian Islands.

We use Dixon's Dark Red for wagons, implements, etc., and find it satisfactory.

We also use Dixon's Graphite No. 633, size No. 2, for lubricating the cylinders of our Corliss engines, steam pumps, etc."

Another engineer writes:

"We have been buying Dixon's Silica-Graphite Paint for some years. We are also using Dixon's Locomotive Front End Finish for polishing locomotive front ends, and Dixon's Boiler Graphite for the locomotive boilers, as a scale preventative, both of which give excellent satisfaction."

The manager of another plantation writes:

"We have used Dixon's Silica-Graphite Paint for many years, and, being familiar with it, use it on work to which it is best adapted."

The Dixon Company has received many similar letters from plantation engineers, superintendents, managers, etc., in the Hawaiian Islands, Cuba, Porto Rico, and other tropical and sub-tropical countries.

"A Compliment That Should Make Us Proud and Should Also Make Us Ashamed"

THE above are the words of a New York paper in speaking of the banquet tendered to the Brazilian and Argentine battle-ships by the Mayor's Council of National Defense. It added: "These gracious and charming Latins paid our country a compliment that night beyond the power of words—a compliment that should make us proud and also make us ashamed. Every man of them—ambassadors and captains of war-ships—Da Gama, of Brazil, and the accomplished Naon, of Argentine—Captain Dabeaux, of the *Rivadavia*, and Captain de Mello, of the *São Paulo*—each spoke at the banquet in our own American tongue, fluent and clear. Not a man of the dozen American publicists on the programme was able to pay Latin America the reciprocal compliment of responding in the soft, rich Spanish of their native lands. What a joy it would have been to our visitors to have heard their mother tongue speaking to them from the great nation that is to be so close to them in the future."

◆ ◆ ◆

Dixon's Stove Cement is a simple, rapid and effective repair for cracked or worn stove and range linings. It may be easily applied and saves its cost many times over.

Water Companies, Attention!

THE following letter from E. E. Davis, Superintendent of the City Water Works, Richmond, Va., is worth noting:

"In reply to your letter of June 27th, concerning Dixon's Silica-Graphite Paint, will state that we used it on the tank and iron fence around the reservoir and other exposed iron and steel. As far as I can determine, Dixon's Paint is the best paint for steel and iron structures."

"CITY WATER WORKS,
"(Signed) E. E. DAVIS, Supt."

Dixon's Paint thus saves in labor and material. It is widely used by water companies, municipalities, railroads and manufacturers in general, wherever "yearly" economy and rust are the problems to be met.

Owing to the increasing cost of labor and material, it is important now to use the LONGEST SERVICE protective paint (Dixon's Silica-Graphite Paint) because it will not be necessary to repaint in a year or two.

Hog Island—A Wonderful Construction and Executive Work

IN an announcement by Mr. George J. Baldwin, vice-president of the American International Corporation, we learn that five months after the agreement with the United States Government was signed the keel of the first ship was laid on February 12, 1918, and six months later the first ship was launched.

Hog Island is the greatest shipyard in the world, and next to the Panama Canal the greatest piece of single construction work.

In August, 1918, over forty vessels were under construction and by the end of 1918 it is expected that forty-eight vessels will have been completed.

When the entire yard is in operation, fifty vessels will be under construction at one time, while twenty-eight will be in process of completion at docks nearly three miles in length.

A year ago Hog Island was but a dreary marsh. To-day it is a city where 30,000 men are working.

The city has a complete sewerage system, paved roads, hospitals and administrative offices, all separate and distinct from the vast activities of the shipyard itself.

Hog Island has the second largest air compressor plant in the world with adequate water pressure. It has fifty miles or more of railroad lines.

Much of the work of the construction of the yard and the city was carried on during a winter of unprecedented severity when the ground was frozen from three to five feet.

Muckrakers and pro-German sympathizers endeavored to create dissension and to arouse hostility, but when Congress decided to investigate the Hog Island Shipyard the committee which visited it stood in amazement at what had been achieved.

A Woman's Capes

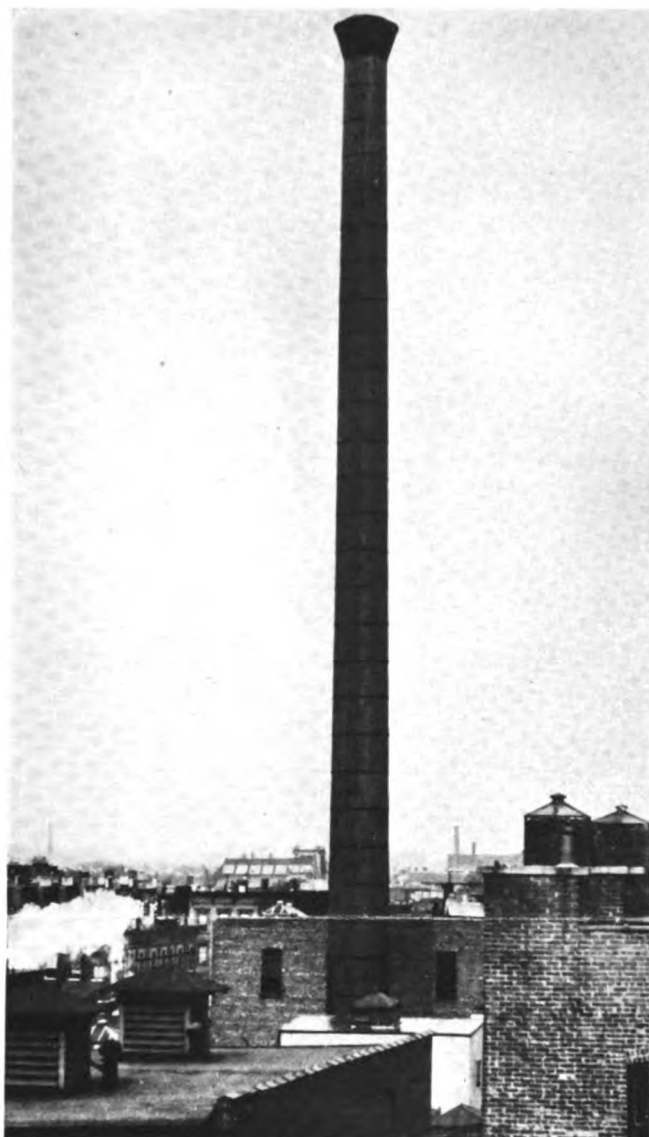
CAPE of Good Hope—Sweet Sixteen.

Cape Flattery—Twenty.

Cape Lookout—Twenty-five.

Cape Fear—Thirty.

Cape Farewell—Forty.



**Smokestack, Bee Hive Hygeia Ice Co.,
Brooklyn, N. Y.**

BROOKLYN used to be called the city of churches. Industry is making it the city of smokestacks. Many of these are protected with Dixon's Silica-Graphite Paint, like the one illustrated above, which shows the smokestack of the Bee Hive Hygeia Ice Company.

The stack is 175 feet high; 12 feet base; 8 feet top; painted two years ago with Dixon's Paint.

There is no severer test than intense heat, salt air, high winds, and great changes of temperature. Yet Dixon's paint withstands all for very long periods of time.

Therefore insist on Dixon's when next you paint metal or wood work.

Remember, rust costs more than paint and painting labor costs more than paint.

Use the LONGEST SERVICE paint—Dixon's Silica-Graphite Paint.

◆ ◆ ◆
QUALITY is the only solid foundation on which to build a business. The customer you get by Quality and Service is bound to you; he is one of the assets of your business.—*The Pointer.*

The South—A Real Country in Itself

THE growth of the South does not seem to be thoroughly realized by some of our leading and very able Northern papers. There is water-power on the Tennessee River available for the development of over 600,000 horse-power, or more than the entire power thus far developed at Niagara Falls. This is available at all seasons and never runs dry. This power could be nearly doubled by the use of a storage system, which would give to that central point in the South a greater potential water-power than has been developed anywhere else on this continent.

In the South there are about 80,000 square miles of coal area, or five times as much as all of Europe, excluding Russia, or twice as much as all of Europe, including Russia.

Three-fourths of the coking coal area in the United States is in the South.

All of the known sulphur deposits of any value in the United States are found in the South, and about 99% of the sulphur output of the United States, which makes possible our ability to carry on the war, comes from the South. This entire output is from two plants, one located in Louisiana and one in Texas.

So vast are the iron ore resources of the South that the United States Steel Corporation alone has in its Alabama property between 700,000,000 and 800,000,000 tons of iron ore.

Every ton of the raw material which enters into the manufacture of aluminum is produced in the South.

More than 60% of the entire oil output of the United States comes from the South.

The entire cotton production of the country, without which the nation could not be clothed, without which explosives could not be made, and without which there could be no tents for our armies, is produced in the South.

The value of the cottonseed produces annually \$350,000,000 of food and feed-stuff. The cottonseed oil of the South is very nearly equal in quantity to the entire butter production of the United States.—*Manufacturers' Record.*

Modern Philosophy

DID it ever occur to you that man's life is full of crosses and temptations?

He comes into the world without his consent, goes out against his will, and the trip is exceedingly rocky.

The rule of contraries is one of the features of this trip. When he is little the big girls kiss him, when he is big the little girls kiss him.

If he is poor, he is a lemon. If he is rich, he is a crook. If he needs credit, he gets it in the neck. If he is prosperous, they all fall over themselves to do him a favor.

If he is in politics, it's for graft. If he stays out, he is no good to the country. If he does not give to charity, he is close-fisted, and, if he does, he does it for show.

If he be actively religious, he is a hypocrite. If he takes no interest in religion, he is a hardened sinner.

If he gives affection, he is a "softy," and if he cares for no one, he is cold-blooded. If he dies young, "there was a great future before him," and if he lives to an old age, he missed his calling.

If you save your money, you're a grouch.

If you spend it, you're a loafer.

If you get it, you're a grafter.

If you don't get it, you're a bum—

So, what's the use, life's just one durned thing after another.—*The Times of Cuba.*

I Am Public Opinion



All men fear me!

I declare that Uncle Sam shall not go to his knees to beg you to buy his bonds. That is no position for a fighting man. But if you have the money to buy and do not buy, I will make this No Man's Land for you!

I will judge you not by an allegiance expressed in mere words.

I will judge you not by your mad cheers as our boys march away to whatever fate may have in store for them.

I will judge you not by the warmth of the tears you shed over the lists of the dead and the injured that come to us from time to time.

I will judge you not by your uncovered head and solemn mien as our maimed in battle return to our shores for loving care.

But, as wise as I am just, I will judge you by the material aid you give to the fighting men who are facing death that you may live and move and have your being in a world made safe.

I warn you—don't talk patriotism over here unless your money is talking victory Over There.

I am public opinion!

As I judge, all men stand or fall!

Buy U. S. Gov't Bonds Fourth Liberty Loan

Contributed through
Division of Advertising



United States Gov't Comm.
on Public Information

This space contributed for the Winning of the War by

JOSEPH DIXON CRUCIBLE COMPANY, Jersey City, N. J., U. S. A.

Roof Testimonial

Eighteen Years' Paint Service

DIXON'S Silica-Graphite Paint gave a service of eighteen years on the roof of the barn owned by Mr. E. N. Burgess (who is chief engineer at the power plant of the Straight Line Engine Co., Syracuse, N. Y.), at De-Ruyter, N. Y.

Five years ago it was again painted with Dixon's Paint.

In city and country, at home and abroad, on metal or wood, Dixon's Silica - Graphite Paint is popularly known as the **LONG SERVICE** protective paint; the paint that saves in yearly labor charges, because it lasts more years.

Coefficient of Friction

THIS is a term that is probably used more than any other in mechanics and yet is the least understood.

So that our readers may know, we give below an easily understood definition:

"In any mechanical device such as a machine, the coefficient of friction is the ratio of work done in overcoming the friction of moving parts to the total amount of power delivered to the machine, and is affected in its extent by conditions of temperature, pressure and velocity."

How Purchase Power Dropped

BEFORE the war an ounce of gold would buy four tons of coal, one hundred pounds of copper, four barrels of flour, ten days of unskilled labor, one hundred pounds of meat.

Now an ounce of gold would buy only two and a half tons of coal, eighty pounds of copper, one and a half barrels of flour, five days of unskilled labor, fifty pounds of meat.

—New York Sun.

A Suggestion for Gas Companies

ARE you satisfied with your present method of lubricating stuffing boxes in gas meters? If not, the following practice of the Maryland Meter Co., Baltimore, can be highly recommended:

They boil Germantown wool in Dixon's Waterproof Graphite Grease, after which the yarn is put through a

"joy riders"—60 miles per hour—is equal to a fall of 121 feet. No wonder that after such an impact the telegraph poles go down and the joy riders so seldom live to repeat.

The danger increases as the square of the number of miles per hour.

South America

SOME one has said that studying geography is largely a humbug, as it gives one a very poor idea of the world's surfaces, climates, etc. Anyway, those who travel tell us how differently they find things.

Mr. Alfredo J. Eichler, Dixon's representative in Buenos Aires, South America, writing under date of June 26th last, says: "We had snow here last Sunday, the first time in eighty-eight years, so the newspapers say. There was enough to make snowmen and it was hard to tell whether the youngsters or the old people enjoyed it most. It was very cold, and the wind was very strong

and blew dust from the Andes Mountains."

How many of us realize the fact that the seasons in Argentine are just the reverse of ours; or how far the Andes are from Buenos Aires; or that there are twenty different republics down there instead of one South American country, as so many of us seem to think? Or again, that you could put the entire United States into one of those republics and have room enough left in that one republic to put the Kaiser and his empire if you wanted to bottle him up?

That is some country down there, and the manufacturers and business men of the United States will do well to study the possibilities of that wonderful South America and her twenty republics.

Ain't It Discouragin'?—Hopkins



clothes wringer in order to treat it uniformly with lubricant and keep it uniform in weight. In this condition it provides lubrication for slowly moving parts in a tight compartment like a stuffing box for an indefinite period.

As usual, it is the selected Flake Graphite in the grease that does the trick.

Motor Car Speeds

FEW who drive at a rate of 25 to 50 miles per hour ever, perhaps, consider the danger or the force of impact. In other words, when traveling at the rate of 25 miles, the force of impact is equal to a fall of 21.01 feet; and at the rate of 50 miles per hour the impact is equal to a fall of 84.02 feet. At 100 miles per hour—the rate of the speed kings—the impact is equal to a direct fall of 336.10 feet. The rate of

Unfair Trade Practice

WHEN the writer was a boy and a clerk in a country grocery store, one of the customers complained that he was always told when the prices went up, but had to find out for himself when the prices went down. The dealer said, "It is my business to tell you when the prices go up and it is your business to find out when they go down."

Such rules of the old days as "He who buys must look out for himself," "Everything goes in trade," "Business is business," have been, or are being, largely discarded. A new, simple rule—"Compete honestly"—is replacing them.

Unfair trade practices which have been rife during the past two or three decades have received due consideration from the courts. Large business concerns, as well as small, need the protection of the courts to abate unfair practices. We read in the daily papers that in normal times over \$250,000,000 per year is gained by sharpers through credulous investors, and that at the present time the sharpers are reaping a richer harvest than ever.

However, as far as mercantile business is concerned, unfair competition and unfair dealing generally are disappearing for the very reason that the people soon discover the dealer who is, to say the least, unfair.



Motoring Is One Sweet Song

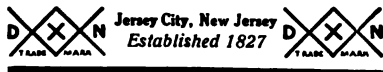
when every place where metal rubs metal is protected by the long-wearing, unctuous, graphite veneer that is provided only by

DIXON'S
GRAPHITE
Automobile
LUBRICANTS

They make your car run smoother, quieter, farther per gallon of "gas" and with less upkeep.

Ask your dealer for the
Dixon Lubricating Chart.

JOSEPH DIXON CRUCIBLE COMPANY



GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

A Real Estate Man says:

"I THANK you for the samples sent me and would say that I was so well pleased with ELDORADO that I at once sent a messenger to a shop in the city for a dozen. Have given some to friends who are loud in their praise."

A Chief Engineer says:

"WE are pleased to advise that we have always had good success with your drawing pencil. We are now using them exclusively in our drawing room and feel perfectly free in stating that they are just as good, if not better than some of the foreign makes of pencil we were recently purchasing before the war."

A Southern Manufacturer says:

"WE advise that we are very much pleased with the samples of your ELDORADO pencils and will specify this pencil in our order for supplies."

A Shipping Company writes:

"THIS will acknowledge receipt of your letter of May 2d, with enclosure of sample ELDORADO pencils HB, 2H and 4H, for which we thank you. We are inclined to believe that your ELDORADO pencils compare favorably with the foreign brands which we have been using in our Engineering Department, and in the future will arrange to use ELDORADO pencils whenever we have occasion to purchase any."

An Educator writes:

"I HAVE received your sample set of Dixon's ELDORADO and also Dixon's Best White, for which I wish to thank you very much. It is with pleasure that I state that for some time past it has been my policy to advise my students to purchase Dixon's 4H, 5H and 6H for drawing purposes."

An Aëroplane Draftsman writes:

"YOUR letter of May 6th received; also pencils arrived and have already tried them out and bought 15 boxes of them yesterday in Nassau Street, New York City, and will say I consider them far better than the — and several other makes of imported drawing pencils. I do the finest kind of machine drafting and know a pencil as soon as I use it five minutes. The other set you sent is on its way to China to an engineer friend, with a request to give them a trial and be a real American and use American-made pencils. I think they are far ahead of the foreign article, and in the future will use them entirely in my work of aëroplane drafting."

From a College Professor:

"I TAKE pleasure in thanking you for the assortment of Dixon's ELDORADO drawing pencils which you sent me some time since. I tested these pencils a few weeks ago and indicated to Mr. — the grades which we could use most satisfactorily in our zoological classes. The pencils are of a high quality of excellence and we shall be glad to have our students use them."

An Office Worker says:

"IN regard to the samples of pencils which you submitted, I must say that I have never had the pleasure of using a pencil which represented so much value as Dixon's ELDORADO—the master drawing pencil."

From a Chief Draftsman:

"WE are in receipt of your favor, also samples of ELDORADO drafting pencils, and would advise that we are very much pleased with the same. We have been having considerable difficulty in obtaining a drafting pencil with uniform lead, and will be glad to use your pencils as long as the lead remains uniform."

An Engineering Company writes:

"THE samples of your ELDORADO pencils have been received and we found them to be exceedingly fine, every bit as good as the — that we used heretofore."

From an Office Manager:

"WE are in receipt of your letter regarding ELDORADO pencils and are pleased to advise that they meet our requirements more than any we have been able to get. We expect to continue purchasing them."

DIXON'S



WATERPROOF GRAPHITE GREASE

Doubles the Life of Pump Plungers

You know how quickly dirty or gritty water destroys plungers. But do you know that you can protect them by using Dixon's Waterproof Grease?

It is adhesive without being gummy and cannot be washed off. The graphite forms a protective coating over the plunger that prevents wear. Packings last indefinitely and pumps operate smoothly and quietly.

Dixon's Waterproof Grease is equally good for gears, as it cannot be thrown off, and it forms a durable coating over bearing surfaces that eliminates the wear.

Write for Booklet No. 190-W that tells more about this lubricant and how and where it can be used.

Made in Jersey City, N. J., by the

Joseph Dixon Crucible Company



Established 1827



THE DE VINNE PRESS
NEW YORK

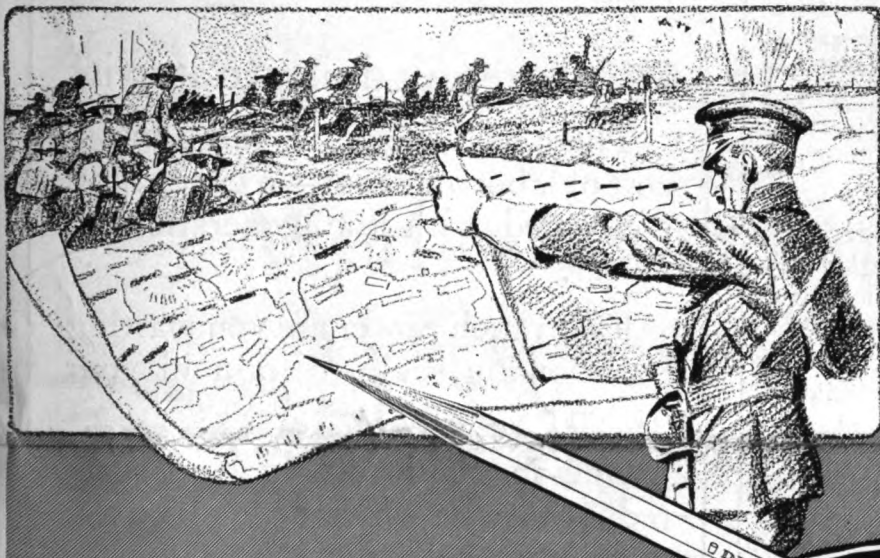
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Graphite

VOL. XX

NOVEMBER, 1918

No. 11



A Pencil Directs the Biggest Battles

With our Army abroad—in our Arts,
Professions, and Business—wherever
maximum efficiency is essential
you will find—

DIXON'S
ELDORADO

"the master drawing pencil"

JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868

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Plumbago, Black Lead**

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H. Glyde Gregory, Royal Bank Building, San Juan

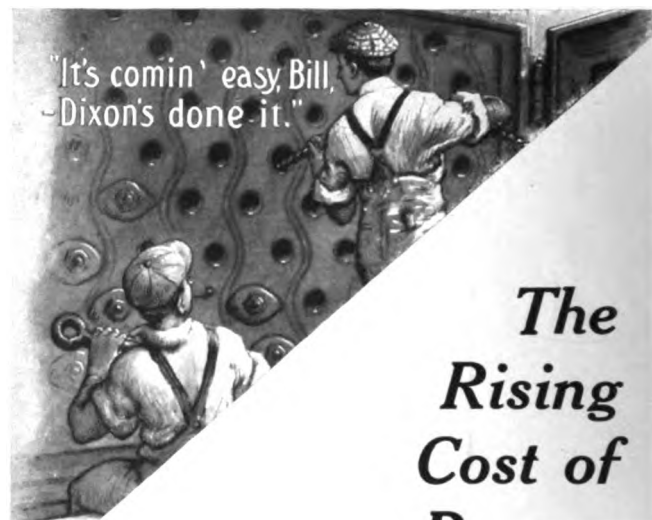
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National Paper and Type Company, 31-35 Burling Slip, N. Y.
With Branch Houses in Mexico, Cuba, Peru, Argentine,
Uruguay, Venezuela, Porto Rico and Colombia

CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.
A. R. MacDougall & Co., Ltd., 468 King St., West, Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS
Canadian Asbestos Company, Montreal, Quebec, Can.



The Rising Cost of Power

What are you doing to stop it?

There has been a big jump in the cost of labor and coal—in everything concerned with the generation of power.

How much power are you wasting by allowing scale to form in your boilers?

One-sixteenth inch of hard scale reduces boiler efficiency fully 10%.

DIXON'S PIONEER BOILER GRAPHITE

is one of the safest, simplest and most effective scale treatments known.

It makes scale soft and easy to remove—protects the metal, and can be used in any feed water and in any type of boiler.

Dixon's Pioneer Boiler Graphite will help you keep down the cost of power.

**Write for Booklet No. 190-T
It's Free!**

**Made in Jersey City, N. J., by the
Joseph Dixon Crucible Co.**



ESTABLISHED 1827





YOUR wages and salary accounts in the aggregate and per capita are, Wages and Salaries —vs.— Methods and Equipment

like ours, abnormally high. You would be neither human nor patriotic if you did not strive for methods by which to secure the largest possible production from your pay-roll expenditure—aside from any question of the scarcity of labor.

The Superintendent of the Dixon Pencil Factory was able to report for the month of September, 1918, a greater production of **BETTER QUALITY** pencils than in September, 1917, with about 20% less employees. This excellent showing was possible only because better methods and equipment, developed by energetic thought, put increased producing power into each available unit of human energy.

The principle is precisely the same in every line of human effort. Better living methods completely transform the physical power of the soldier—the virtuoso could not so enrapture his audience if he performed on a common violin—you would not think of providing for your stenographer a typewriter of any but the highest standard.

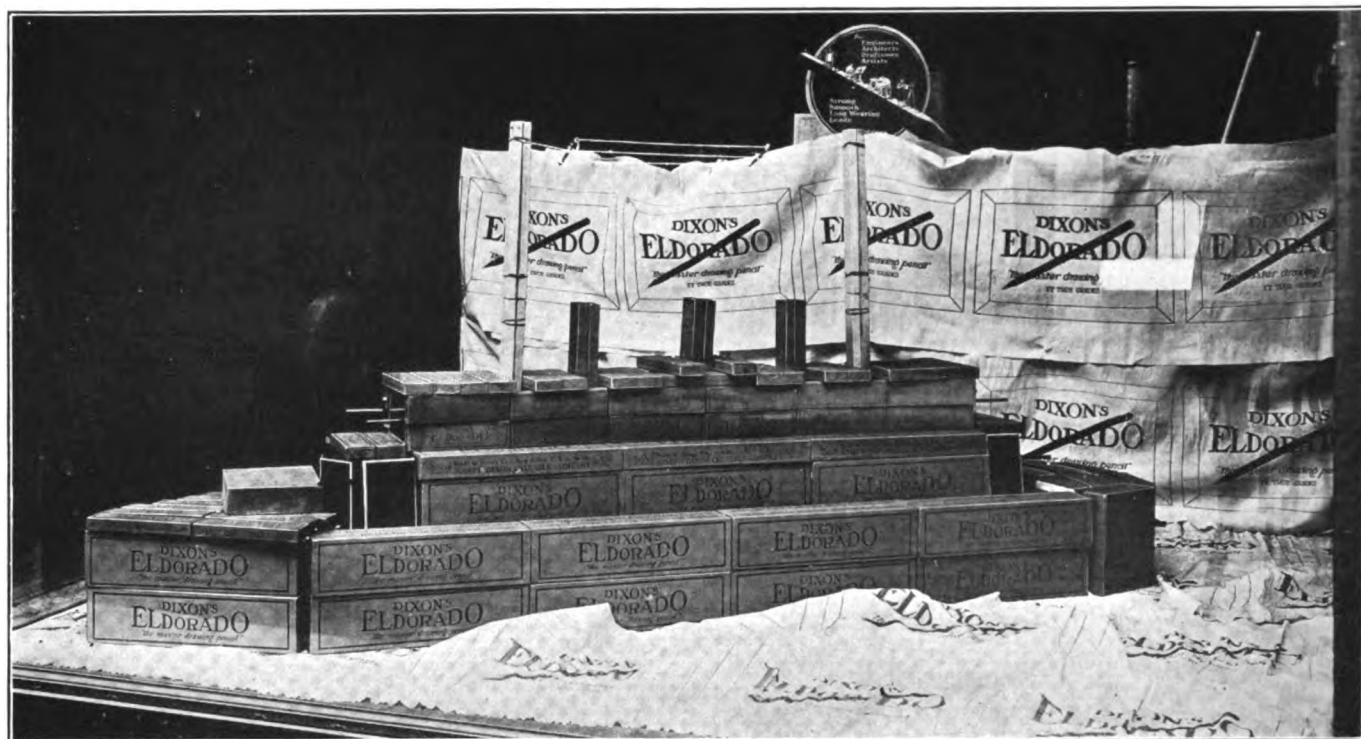
ONE of the State Auditors says:

"Personally I am very much pleased to get the ELDORADO pencils for use in our auditing work, as the flow of lead is exceedingly smooth. I also find that one of these pencils will outlast three of the ordinary quality by reason of the fact that they do not require anything like so much sharpening to keep them in good writing condition."

And yet, recognizing the principle as we all do, isn't it strange that we so often are unobserving of the possibilities of the apparently small things, like, for example, a lead pencil—even though the pencil is the most widely used "office tool," affecting your efficiency and that of all of your office assistants?

Your annual lead pencil bill is a mere trifle compared to your annual office salary account. If by even doubling your pencil outlay you could increase the efficiency of your office force merely 1%, you would undoubtedly earn 100% on the increase in your investment. But it so happens that the lead in a pencil like Dixon's **ELDORADO**—"the master drawing pencil"—is so long-wearing, in addition to its delightfully smooth, free-gliding quality, that your annual pencil bill would with its use be little if any larger.

Technical men and artists have long recognized this pencil-truth, and we are glad to observe an increasingly strong tendency among business men to improve the effectiveness of their office staffs by a more careful selection of the necessary office equipment and supplies.



"Timely" Window Trim

THE accompanying photograph was sent in recently by Mr. H. B. Van Dorn, Jr., of the Boston Sales Office, with the following memorandum:

"The last time the writer was in New Haven, he was impressed with a unique window in the new store of the Blue Print Co., Mr. Royal F. Leighton, Prop., 56 Orange Street. He had used dummy boxes, and dozen pencil boxes, with a few No. 451½ eraser boxes to build a first-class battle-ship, which was sailing bravely on a sea of ELDORADO crepe paper. The pencils were the guns, and full of lead, and the Sound only six blocks away.

"Mr. Leighton has just sent us a photograph of this window which you may like to reproduce, particularly as it shows a departure from the usual method of handling the display material. You will notice in this photograph that the battle-ship was equipped with radio-aerial, but the photograph does not indicate what message was being sent at the time. It may have been an S O S call for ELDORADO pencils, or it may have been a message to the various shipbuilding and marine engineering equipment plants of Connecticut that Dixon's ELDORADO pencil would make a sure hit in their drafting rooms."

The Salesman's Friend—"Dixon's Order Book" No. 2020

WHETHER selling on the road or inside, or engaged in any work that requires duplicate or triplicate entries, Dixon's Order Book Pencil No. 2020 will prove most serviceable. A medium hard, high grade black lead pencil, it is especially designed for manifolding, and carries a suggestion of accurate work in the metal cap which replaces the rubber tip of the ordinary commercial pencil. It's a round pencil, in bright yellow finish, very attractive in appearance—you will like it if you once try it. No salesman should be without it.

Standardization of Dixon's Lumber Crayons

FOR the convenience of our patrons, we beg to announce the following standardization of styles and colors in the Dixon Line of Lumber Crayons, which for many years have been universally recognized as the standard in quality:

Black (Graphite)

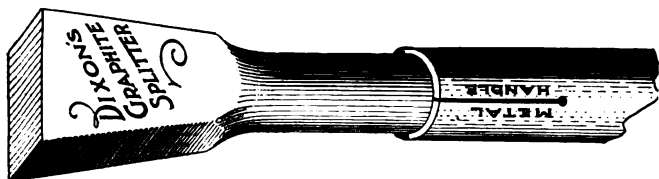
Dixon's No. 361	Medium Soft, Japanned Finish
" 365	Soft, Paper Covered
" 365½	Very Soft, Japanned Finish

Colored

Dixon's No. 494	Carbon Black
" 496	Yellow
" 497	Terra Cotta
" 520	Red
" 521	Blue
" 521½	Soft Blue
" 522	Green
" 523	White

While Dixon's Lumber Crayons were originally designed for marking lumber, it is interesting to observe the broad scope of their use at this date, because of their distinctive qualities: They mark freely, the colors are vivid and remain so for a maximum period, and the crayons are exceptionally strong and long-wearing. To-day, Dixon's Lumber Crayons are fully as necessary to the essential industries for marking on metal—the yellow color being especially popular for this purpose—as for marking on lumber.

While pressed from all sides for deliveries of Dixon's Lumber Crayons under present conditions, we are exercising the same constant care and vigilance to keep the quality up to the high standard that has made these crayons famous in nearly every country of the World.



Dixon's Graphite Splitter

FOR some time past we have had increasing calls from Brass Rolling Mills for Dixon's Graphite Splitters.

These are used to split the flow of metal into two streams as it is poured from the crucible into the ingot. The Graphite Splitter is inserted into a metal tube or handle. At the time of pouring the metal from the crucible into the ingot, the Splitter is placed so as to split the flow of metal into two streams.

The advantage of the Dixon Splitter over an iron rod is that no iron is taken up by the metal at the time of pouring.

For further information as to prices write to Dept. 190-A.

Crucibles That Satisfy

THERE is no lengthy statement needed in the matter of Dixon's Crucibles. The Dixon Crucible is looked upon as the standard of its line. Users of Dixon's Crucibles are assured of an absolutely reliable investment. The Dixon Crucible is guaranteed to be made of the very best materials obtainable. These materials are chosen and worked into crucibles by skilled, experienced men.

We offer the Dixon Crucible strictly upon its merits and urgently request very careful attention to what we have said in our pamphlets and circulars relative to the care and treatment of a crucible before using and while in use and even after the running of the first heats.

In all of our descriptive and printed matter, we have sought to be careful and exact. We do not countenance the employment of misleading statements either in our printed matter or by our salesmen, nor do we enlarge upon the description of unimportant features with a view to influencing prospective buyers.

Our policy is to make the Dixon Crucible first-class in every detail, to provide our customers with a substantial, practical crucible that will meet every want for which that crucible is intended; but we desire to emphasize the fact that a brass crucible is not suitable for steel melting and that a crucible intended for a coal or coke fire may not prove serviceable in an oil or gas fire.

We believe that the Dixon Crucibles are the most economical crucibles in fuel consumption and in life if given the attention we suggest. Bear in mind, please, that first cost is not the most important consideration. Value in all goods is dependent upon the quality of material and workmanship employed, and a standard product like the Dixon Crucible, if perhaps a trifle more costly, is invariably found the most satisfactory and the most economical in the end.

◆ ◆ ◆

The Chief Engineer of the Walker Building, Boston, Mass., bought some of Dixon's Waterproof Grease some time ago and liked it so well he has just purchased another keg. He also painted his smokestack with Dixon's Silica-Graphite Paint.



Albert R. Lloyd, Deceased

IT is with deep regret that we announce the death of ALBERT RUSSELL LLOYD, on Friday evening, October 11th, following an attack of influenza. The funeral took place at his late residence in Philadelphia on Wednesday, October 16th, interment being in Woodland Cemetery.

In accordance with the instructions of the local authorities, the funeral was confined to his immediate relatives and a small number of his closest friends. At the cemetery a short Masonic service was conducted.

Mr. Lloyd was in his 52d year, unmarried, and had for twenty years been associated with our Philadelphia District Sales Office, as a salesman of Pencil Department products. Prior to this he was for fourteen years with the J. B. Lippincott Co., of Philadelphia, so that during practically his entire business career he was identified with the Stationery Trade. During the period of Mr. Lloyd's connection with the Dixon Company, he thoroughly established himself with this Company as an able, successful salesman and with his customers as a man of honest, straightforward methods.

The one thing, over and above everything else, for which Mr. Lloyd will long be remembered by his host of friends, was his big-hearted, sympathetic nature. He was always a helper and a booster; born with the instincts of a gentleman, there was not a mean streak in him, and the lives of a great many people have been made sweeter through contact with him. In the community and among his friends, both in a personal and business sphere, he was a highly respected citizen. His qualities of personality and likableness were peculiar to himself, and everywhere he was hailed with genuine affection. He was probably the most popular and the most widely known salesman in the Philadelphia Stationery Trade.

Mr. Lloyd was a member of the Philadelphia Athletic Club, the Bon Air Country Club, University Lodge No. 610, and Chapter 256 F. and A. M.

YOU can't succeed if you don't take pleasure in your work for its own sake. And if you are fitted for it, you will.—
The Optimist.

PURCHASING ORDER			
CENTRAL SCHOOL SUPPLY CO.			
Everything for the School			
Louisville, Ky.	September 6th,	1918	
Order No. 2362	Jos. Dixon Crucible Co.,		
When Ship At once	Jersey City, N. J.		
How Ship Cheapest way	Terms		
Ship to Central School Supply Co., Louisville, Ky.			
Charge to Central School Supply Co., Louisville, Ky.			
1 gross Eldorado HB Pencils			

This is the best pencil we've ever used. Please send at once

SCHOOL SALE

SEP 17 1918

CENTRAL SCHOOL SUPPLY CO.
By *[Signature]*
Purchasing Agent

More Honors for Dixon's

WE have from time to time published in these columns copies of telegrams advising that the winners of various State Fairs have credited a great part of their success to their use of Dixon's Graphite Automobile Lubricants.

Here are some more:

Memphis, Tenn., Sept. 23, 1918.

Over fifteen thousand race fans last Saturday saw George Clark win the Tennessee Trophy Race, the big event of the automobile races which closed the Tennessee State Fair at Nashville. For the past seven years Clark has used nothing but Dixon's Lubricants for his racing mounts, and attributes much of his success to faultless lubrication.

HUFF DORWARD, *Race Manager.*

Kansas City, Mo., Sept. 17, 1918.

Dixon's Graphite Automobile Lubricants scored double victory in the two days automobile races which closed Kansas State Fair at Topeka, when Sig Haugdahl lowered all records for the State of Kansas for one mile distance. And also at big Interstate Livestock Fair, at Sioux City, Iowa, where Bill Endicott and Tom Alley won first and second places in the Hawkeye Sweepstakes. These three winners used Dixon's Graphite Automobile Lubricants exclusively.

HUFF DORWARD, *Race Manager.*

Kansas City, Mo., Sept. 15, 1918.

Broke five world's records at Kentucky State Fair Auto Races Saturday, averaging four seconds to the lap faster than any other driver ever did, including Ralph de Palma, Oldfield, Disbrow, Earl Cooper, Mulford, Eddie Hearne, and other stars. Records were for five, ten, fifteen, twenty and twenty-five miles. Dixon's Graphite Automobile Lubricants largely responsible for efficiency of racing car.

FRED HOREY, *Dirt Track Champion.*

Again, the Best by Test

THE large industrial company whose letter is quoted below has proved the matter of pencil cost and pencil service to its entire satisfaction, and standardized on Dixon's ELDORADO—"the master drawing pencil."

Some time ago they tried the ELDORADO very thoroughly, and approved it. Then they were persuaded to purchase another brand at a saving of something over a dollar a gross.

The letter, showing the return to ELDORADO, is significant.

September 27, 1918.

JOS. DIXON CRUCIBLE CO.,
Jersey City, N. J.

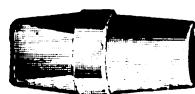
Gentlemen:

We have your letter of September 23 at hand, and would say that we are now using ELDORADO pencils in our Drafting Room. In the near future we expect to place an order of fifty gross. We buy from all the local stationers and drawing material dealers; also from — and —.

The writer has been in close touch with the drawing pencil situation in this plant, and it is the opinion that the ELDORADO is the best drawing pencil on the market at this time.—PURCHASING DEPT.

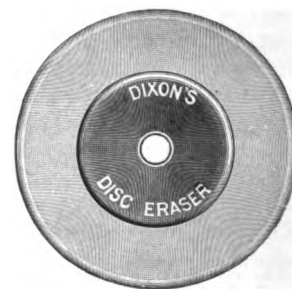
In the Spirit of the Times

IN the spirit of the times, we have been requested by the Conservation Division of the War Industries Board to conserve, as far as practicable, on metal used in the lead pencil industry. We ourselves have already taken a number of steps in this direction. We are sure that in the same spirit our patrons will, wherever feasible, be glad to substitute untipped pencils for pencils with metal tips and rubbers. It is needless for us to point out the metal requirements of the Government at this time.



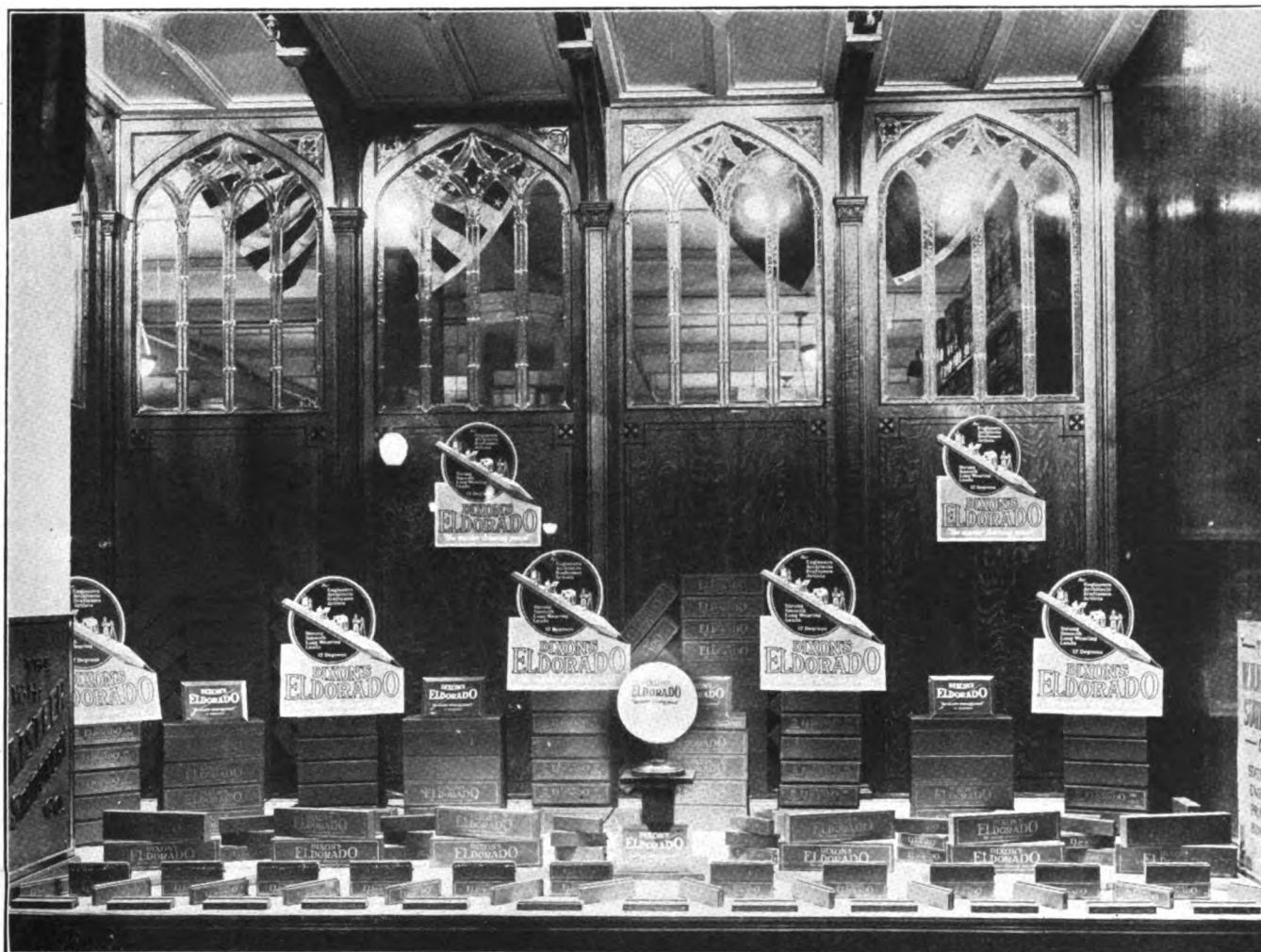
Wedge Eraser is regarded as the most sensible and practical rubber eraser for a lead pencil ever devised.

In the form of a Disc Type-writer Eraser for your stenographers, your attention is invited to Dixon's No. 899, as also shown in the margin. The No. 899 has gained its popularity because, first, of the very fine quality of the material used, and second, because of the thin edge, which permits the erasure of a single letter without smudging the letters on either side.



Another most useful item in the Dixon Eraser line in the form of a Pencil-and-Ink or Pencil-and-Typewriter Eraser, is Dixon's No. 860, which is different from anything else on the market. The pencil portion of the eraser is red, and the ink or typewriter portion is dark gray.

Write us on your letterhead for samples of any or all of these erasers that you would like to try.



Denver—Not New York

WE do not recall having seen a more artistic window, in New York or elsewhere, than the one pictured here. It belongs to the flourishing store of W. H. Kistler Stationery Company, Denver, Colo.

The "interior trim" of highly finished hardwood is a natural lure to the eye. Its attraction value is enhanced here by the four small arched windows that have been let into the dividing partition between store and window. Incidentally those bits of Gothic architecture lead the gaze of the man on the sidewalk straight through the window into the store. As for their decorative effectiveness—the delicate tracery of leaded design has much to do with the atmosphere of quality and distinction that this window possesses. Then note how the scheme of paneling lends itself to the converting of the window into four separate display spaces, by simply running in three partitions—for holiday use or for four distinct classes of goods.

Naturally high grade goods blend perfectly with such a window. Dixon's ELDORADO—"the master drawing pencil" is entirely at home here. The subdued richness of the ELDORADO packaging (in blue and gold), and the "tone" of the exhibit material as a whole, are exceptionally well presented in this setting. Fine enough for Fifth Avenue—practical enough for every store that sells the average office and general trade—for ELDORADO sells to technical man, teacher, student, clerk, stenographer,

bookkeeper, office workers of all kinds, and general and professional pencil users of every class. Ask for quotation from your jobber, or the nearest Dixon branch (see inside front cover), if you aren't yet carrying ELDORADO.

How the West Talks

THE West feeds many things to most of our people. You are served an extra-fine cantaloupe—it probably came from the Imperial Valley in California. You buy an orange or a lemon—it is a two to one proposition that these were grown in California. The raisins in your rice pudding came from Fresno. The prunes you had for breakfast were grown in the Santa Clara Valley. The pears you picked up at a fruit stand on the way home acquired their golden hue just outside of San José, close by the place where the apricots you found on the sideboard were grown. Those big canned peaches, the English walnuts, the almonds, the figs, the ripe olives, the guavas that went into the jelly, all came out of California. The big red apples and very probably the luscious black cherries took their color from the sunshine in Oregon or Washington.—*New York Commercial*.

Dixon's Graphite Air Brake Grease is especially designed for lubricating the moving parts of air brakes. It prevents all undesired quick action of air brakes due to imperfect lubrication and guarantees smooth, free operation of all parts.



Tank Car, Spencer Kellogg & Sons, Inc., Buffalo, N. Y.

THE Standard Car Construction Company built this illustrated fleet of tank cars at its shops at Sharon, Pa., for the Spencer Kellogg & Sons Company.

Dixon's Silica-Graphite Paint was selected for the protection of these cars "because of its extreme durability under all conditions of exposure and rough handling," to quote an official of the Standard Car Construction Company, who says further: "The use of the highest grade of protective paint is essential for the protection of tank cars from deterioration. It prolongs their life and insures greater and more constant service of the cars."

Do not buy paint by "the gallon price." Buy the protective paint which averages, *per year* of service, the lowest cost. That paint is Dixon's Silica-Graphite Paint, a paint which "goes over the top" wherever wood or metal is subjected to attack by weather, wear, dampness, expansion, contraction, gas, acid, brine, smoke and other rust-producing agencies.

"BEST" Colored Crayon Pencils— "Quite Perfect"

THAT is what Elliott Daingerfield, the noted artist, said of the Dixon line of "BEST" Colored Crayon Pencils. He added: "The Colored Crayons meet a desire on the part of artists of long standing, and drawings made with these Crayons have a charm and permanence which give them great value." They are especially fine for *business use*, and for any purpose where a bold smooth marker is desired in any of the following colors:

No. 320 Light Blue	No. 335 Sepia
No. 321 Carmine	No. 343 Brown
No. 321½ Lake Red	No. 349 Red
No. 322 Pink	No. 350 Blue
No. 323 Violet	No. 351 Terra Cotta
No. 324 Orange	No. 352 White
No. 325 Olive Green	No. 353 Yellow
No. 330 Indigo	No. 354 Green
No. 331 Black	

United States Manufacturers: Possibilities Found in Foreign Countries

THE *STATIST*, of London, in a late article in its columns, calls the attention of its readers to the wonderfully rapid growth of the United States since 1782, and in a later article adds that the great Republic is so powerful a factor in the present War, and is sure to play so determining a part in the future, that it thinks it worth while to call the further attention of its readers to the possibilities of the United States manufacturers in foreign trade.

It continues: "The United States covers a vast area, roughly speaking, about three-quarters the size of the whole of Europe, including European Russia as it was constituted before the War.

"The population of the United States at the present time does not greatly exceed one hundred millions, and it may safely be laid down that it is capable of maintaining in a high state of efficiency at least five times that number. Indeed, it is quite possible that we might go very much farther; for, to begin with, the United States produces almost everything that the heart of man desires. It contains nearly every mineral, and it has an extraordinary diversity of climate, while it is exceedingly well watered.

"The United States is washed upon the East by the Atlantic and upon the West by the Pacific. In other words, she is in a most favorable position to play a great part in the trade of both the Atlantic and the Pacific countries.

"The Panama Canal gives her the control of a short route from the Atlantic to the Pacific countries. Therefore, very little is necessary to give her almost a dominating position.

"It will be a very considerable time, of course, before the great nations of Europe are distanced economically by the rising nations of Eastern Asia. The United States is placed in a position in which her Atlantic ports can carry on an almost boundless trade with Europe, while her Pacific ports can do the same thing with what we in Europe call the Extreme East. Therefore, there seems to be no limit to what the United States may attain through her productive capacity. The United States has a population, a territory, and an amassed wealth which will make it possible for her to dominate the trade of Eastern Asia."



Germany Has Not Yet Invented a Substitute for the American Spirit

POISON GAS, the flame thrower, the tear bomb, the saw-tooth bayonet—these are the contributions of Germany's scientists to modern warfare.

But that peculiar combination of high spirits and vigor called "pep" is a distinctive American invention. "Pep" will win the war. Let's cultivate it.

Never will it be necessary to chain American gunners to their pieces and station the officers behind our men to shoot them if they waver.

The especial field of Y. M. C. A. work is the conservation of "pep." Like a high-bred animal, the soldier is temperamental; he has his ups and downs. The "Y" increases the percentage of "ups."

Send the Boys Over the Top Cheering

The "Y" huts are on all fronts where our boys are fighting. Wherever they are, is a welcome for any American soldier of whatever creed. There he will find home papers, free writing paper, music, free entertainments to cure the blues. He may see movies of American life that will make him think of the home folks. He can get free instruction in

French, Italian or in reading and writing English if need be. He can attend religious service. He can buy there at less than cost the little necessities of life. Thanks to the Y. M. C. A., he is able to take part in active athletics and manly games which keep mind and body fit. And these things will make him think better, fight harder and shoot straighter.

This is what you are giving the boys when you donate to the Y. M. C. A. Are these little comforts and advantages, to which the poorest in this country are accustomed, too good for those who are fighting for you? If you do not think so—and, of course, you don't—stint yourself to the utmost to give to the Y. M. C. A.



Seven allied activities, all endorsed by the Government, are combined in the United War Work Campaign, with the budgets distributed as follows: Y. M. C. A., \$100,000,000; Y. W. C. A., \$15,000,000; National Catholic War Council (including the work of the Knights of Columbus and special war activities for women), \$30,000,000; Jewish Welfare Board, \$3,500,000; American Library Association, \$3,500,000; War Camp Community Service, \$15,000,000; Salvation Army, \$3,500,000.



Contributed through Division of Advertising

U. S. Govt. Comm. on Public Information

This space contributed for the Winning of the War by

JOSEPH DIXON CRUCIBLE COMPANY, Jersey City, N. J., U. S. A.

Poor Prunes

"POOR prunes" is not a very pleasant name to give to the average city man, but that seems to be the name given by one who calls himself a real authority, who writes: "Words are inadequate. Neither tongue nor pen can do justice to this subject. The average man would puff and blow like a porpoise if he attempted to run a quarter of a mile. He would be stiff and sore for days if he walked five miles at a brisk gait."

We are told that if men were asked why they allowed their muscles to become soft, flesh flabby, and joints wheezy, they would have an array of excuses that would shape up fairly well, but if sifted out, it would come to "Can't be bothered."

"Can't be bothered" in reality accounts for a heap of stuff that manages to crawl away under some other guise. What can you expect of a man who rides in his auto or on a street car to work, rides to lunch, rides home and imagines he's a regular bang-up Adonis if he can cut the lawn and carry out the garbage without having a vacation between the movements?

There are few people who bother about keeping in shape. The loss is to themselves, to their employers and to the nation, for no man can allow himself to degenerate into a jelly-fish and keep the consequences entirely to himself.

Rhyme and Reason

WHEN your metal or wood surfaces leak, rust, or are not right, Then think of "Dixon's Silica-Graphite

Protective Paint; lowest cost per year."

"Per gallon" cheap paints in the end are dear!

Rhyme of the Wise Painter

"CLOTHES make the man," the tailors say;

Protective Paint acts the same way!

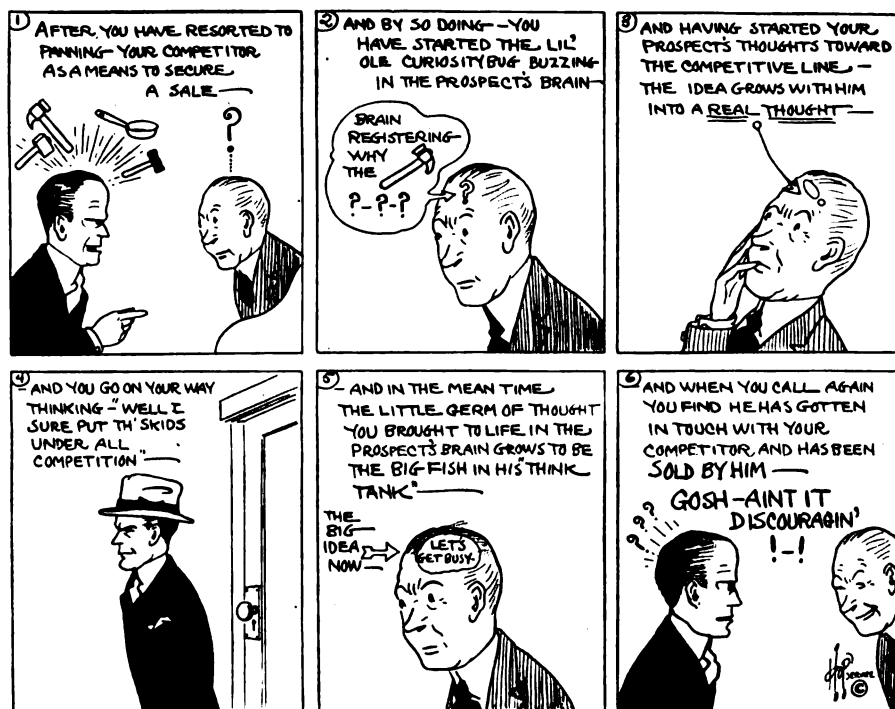
On metal structures the tooth of rust can be defied.

If you apply Dixon's Silica-Graphite Paint on the outside!

Paint to-day, lest costs go up to-morrow;

A coat of rust is metal's cloak of sorrow!

Ain't It Discouragin'?—Hopkins



KEEP your temper, gentle sir,
Writes the manufacturer,
Though your goods are overdue
For a month or maybe two,
We can't help it, please don't swear,
Labor's scarce and needless rare,
Can't get acids, can't get glass,
These are facts—'tis true, alas!

Judson's drafted, so is Russell,
All we hear is, Hustle! Hustle!
So your order, we're afraid,
May be still a bit delayed.
Still you'll get it, don't be vexed.
Maybe this month, maybe next;
Keep on hoping, don't say die,
You will get it by and by.

—The Chemist Analyst.

If You Expect to Advance—Remember

THAT, there is only one Colonel in a regiment and appointed to the post because he can direct others.

That, when you have "done your best" and then bettered it you will enjoy an Envious Reputation.

That, those who "make a Quick Get-away" get away from the Line of Promotion.

That, many pay Professionals to polish their shoes Ten Times what it costs to do it at Home.

That, a Piece of Cotton Waste and Elbow Grease will keep shoes polished for weeks.

That, Forty-five Cents a week plus Tips for shaving, if saved, would open the Door to a Position on Easy Street.

That, if men arose Earlier and Walked to Business, they would be healthier and Save Money.

That, foreigners have a keener sight for Making Money than the Native Born.

That, one man can make himself Worth as much

as another, but he must Hustle as hard as the other Fellow.

That, Eighty Per Cent. of men at Forty Years of age make only day's pay.

That, the other Twenty Per Cent. draw good pay because they are Worth it in service rendered.

That, the Foundation of Success is Frugality, Energy and a Determination to give more service than salary received.

That, this Baker's Dozen, if followed, will assure the reader Recognition and a Satisfactory Position.

—H. F. Frasse.

EDWARD EVERETT HALE'S famous rule of life:


"Look up and not down;
Look forward and not back;
Look out and not in, and
Lend a hand."

Put This in Your Hat

WHEN some chaps are sitting around assuming to tell every one what they know, as to what numbers constitute certain divisions of our army, remove your hat and then read the following to him:

An army corps is 60,000 men.
 An infantry division is 19,000 men.
 An infantry brigade is 7,000 men.
 A regiment of infantry is 3,000 men.
 A battalion is 1,000 men.
 A company is 250 men.
 A platoon is 60 men.
 A corporal's guard is 11 men.
 A field battery has 195 men.
 A firing squad has 20 men.
 A supply train has 283 men.
 A machine gun battalion has 296 men.
 An engineer's regiment has 1,098 men.
 An ambulance company has 66 men.
 A field hospital has 55 men.
 A medical detachment has 13 men.
 A major general heads field army and also each army corps.
 A brigadier general heads each infantry brigade.
 A colonel heads each regiment.
 A lieutenant colonel is next in rank below a colonel.
 A major heads each battalion.
 A captain heads each company.
 A lieutenant heads a platoon.
 A sergeant is next below a lieutenant.
 A corporal is a squad officer.

—Hardware World.



**Dixonize
Your Differential**

with Dixon's No. 677, the grease the "speed kings" use. It reaches all the bearing and provides a graphite coating that prevents wear and outlasts the best plain grease. For every part of your car there's a special kind of

**DIXON'S
GRAPHITE
Automobile
LUBRICANTS**

Ask your dealer for the
Dixon Lubricating Chart

JOSEPH DIXON CRUCIBLE CO.
 Jersey City, New Jersey
 Established 1827

GOLDEN BOUQUETS

OR WHY

**DIXON'S
ELDORADO**

"The Master Drawing Pencil"

SHOULD BE USED

From a Manufacturer:

"THE samples which you sent are so far superior to the pencils that we have been using that we hesitate to inquire as to the cost of these compared with other pencils which we have been using and considered fair. They are without question the smoothest pencils we have had the pleasure of using for a long time."

A Machinery Concern says:

"I HAVE received the sample pencils which you sent me. They certainly are very fine pencils and I find them very satisfactory. They will be used in our drafting department altogether in the future."

A Clerk writes:

"I HAVE used your ELDORADO pencils for the past year, chiefly in the grades F, HB, B and 2B, and like them as well as any I have ever used."

A Stenographer says:

"THE samples of ELDORADO pencils you sent me were the most satisfactory I ever used and I have tried to duplicate them."

From an Insurance Office:

"WE received the samples of HB and 3H ELDORADO pencils, and wish to advise that same proved to be very satisfactory and we have ordered two dozen of the pencils."

From a Treasurer:

"I WISH to report that the samples are very satisfactory indeed and we will specify same on next order."

A City Engineer says:

"ACCEPT my thanks for the pencil samples. Your pencils are used exclusively by this department and are found entirely satisfactory."

Relax

when you write.
 Conserve your
 nerve force.

You can stop that tense gripping of your pencil if you will select one whose lead is so fine grained and easy flowing that it is immediately responsive to the will.

Technical and business men of discrimination and judgment assure us that

**DIXON'S
ELDORADO**
"the master drawing pencil"

possesses this characteristic in a marked measure.

The 17 degrees of leads—6B to 9H—include one or more that will be perfectly suited to your hand.

Tell us on your letter-head the nature of your work or the degrees of hardness preferred and we will gladly send samples.

**JOSEPH DIXON
CRUCIBLE CO.**

Dept. 190-J

Jersey City, N. J.

ESTABLISHED 1827



Are You—

An Engineer? Just try ELDORADO 2H—4H

An Executive? Just try ELDORADO B—HB (medium)

An Artist? Just try ELDORADO 6B—HB

A Salesman? Just try ELDORADO HB—2H

A Designer? Just try ELDORADO 6H

An Accountant? . . . Just try ELDORADO 3H

An Architect? Just try ELDORADO HB—H

A Stenographer? . . Just try ELDORADO 2B—B—HB

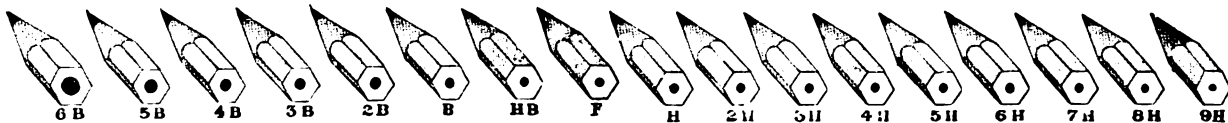
DIXON'S ELDORADO

"the master drawing pencil"

Meets every pencil purpose

17 Degrees of Hardness

6B (Softest) to 9H (Hardest)



Graded to World's Standard

Long-wearing, easy-flowing leads

Write us on your letterhead for the degrees you would like to test before placing a trial order with your dealer, and full-length samples will be sent you promptly.

P. S.—A sample of the most popular rubber head for a pencil that we have seen—the 45½ patented attachable wedge eraser—will be included if you wish.

Made in JERSEY CITY, N. J., by the

Joseph Dixon Crucible Company



Dept. 190-J

Established 1827



THE DE VINNE PRESS
NEW YORK

Graphite



JOSEPH DIXON CRUCIBLE CO.

ESTABLISHED 1827 Jersey City, N. J., U. S. A. INCORPORATED 1868

**Miners, Importers and
Manufacturers of Graphite,
Plumbago, Black Lead**

DIRECTORS

GEORGE T. SMITH	GEORGE E. LONG
WILLIAM G. BUMSTED	EDWARD L. YOUNG
J. H. SCHERMERHORN	HARRY DAILEY
ROBT. E. JENNINGS	

OFFICERS

GEORGE T. SMITH	President
GEORGE E. LONG	Vice-President
J. H. SCHERMERHORN	Vice-President
HARRY DAILEY	Secretary
WILLIAM KOESTER	Treasurer
ALBERT NORRIS	Ass't Sec'y & Ass't Treas.

PURCHASING AGENT

JOHN I. McComb

OFFICES AND SALESROOMS

NEW YORK SALESROOM	68 Reade Street
PHILADELPHIA SALESROOM	1020 Arch Street
SAN FRANCISCO SALESROOM	155 Second Street
CHICAGO OFFICE	1323 to 1327 Monadnock Block
BOSTON OFFICE	347 John Hancock Building
ST. LOUIS OFFICE	501 Victoria Building
BUFFALO OFFICE	409 Erie County Savings Bank Bldg.
ATLANTA OFFICE	225 Peachtree Street

EUROPEAN AGENTS

Graphite Products, Ltd., 218-220 Queens Road, Battersea, London

SOUTH AMERICAN AGENTS

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

ALFREDO J. EICHLER, General Agent

Agent for Argentine, Uruguay and Paraguay

E. H. Blanchard, 185 Paseo Colon, Buenos Aires

Agent for Chile, Peru, Ecuador and Bolivia

Enrique Seller, Calle Huerfanos 761, Santiago, Chile

Agent for Brazil

M. V. Powell, Rua Directa 7, Sala 68, São Paulo, Brazil

CUBAN AGENT

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

William Croft, Room 424 Lonja del Comercio, Havana

Agent for Porto Rico, Virgin Islands and San Domingo

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

H. Glyde Gregory, Royal Bank Building, San Juan

LATIN-AMERICAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

National Paper and Type Company, 31-35 Burling Slip, N. Y.

With Branch Houses in Mexico, Cuba, Peru, Argentine, Uruguay, Venezuela, Porto Rico and Colombia

CANADIAN AGENTS

FOR DIXON'S AMERICAN GRAPHITE PENCILS, ETC.

A. R. MacDougall & Co., Ltd., 468 King St., West, Toronto, Ontario, Can.

FOR ALL PRODUCTS EXCEPT DIXON'S AMERICAN GRAPHITE PENCILS

Canadian Asbestos Company, Montreal, Quebec, Can.

Pencils and eye-glasses

You wouldn't want to read all day through another person's glasses. Of course not! And neither should you work all day with a pencil never intended for your kind of work.

DIXON'S ELDORADO

"the master drawing pencil"

has, among its graduating degrees, a pencil of the precise hardness or softness to suit each kind of work—each individual taste. The strong, smooth, responsive leads are making work easier, quicker, more economical in every industry and profession. Made in 17 degrees—9H (hardest) to 6B (softest); HB (medium) is most popular for general work.

Write us the nature of your pencil work and name of dealer, enclosing 15c in stamps, and we will send you full-length samples of the right degrees for you, worth double the money—also our chart showing the uses of the 17 degrees.



Joseph Dixon Crucible Co.

Dept. 190-J

Jersey City, N. J.



ESTABLISHED 1827



Canadian Distributors

A. R. MacDougall & Co., Ltd., Toronto, Ont.



IT has been well said that you cannot have anything before having a thought of it, nor can you have a change in anything without first having a thought of that change. The machine must exist in the mind of the mechanic or the inventor before it can exist in brass or steel.

So it is in a large industry. The chief executive should have very clearly defined in his mind the make-up of an organization before he can make up that organization. If he does not he will simply be continually building up and pulling apart.

The chief executive should have, when his organization is properly made up, a board of directors or trustees, and a "staff" able to carry out the thoughts and plans of the chief. No industry, no matter how old or well established it may be, can grow or prosper without a "staff" organization.

The larger the industry grows, the better and more able must be its "staff" organization. There must be special aids to the chief or president in the way of vice-presidents, secretaries and assistants. There must be statisticians, price and cost expert accountants, and engineers.

Information must be collected regarding materials, competitors, sales possibilities, domestic and foreign—especially foreign, as the foreign field will in time be the larger, as it has been with England, Germany and other countries.

The "line" of an organization is represented in the way of branch managers, salesmen, clerks and the possible hundreds or thousands of employees.

Industrial Service gives us to understand that the chief executive or president of a successful industry must be a man who can organize such a "staff" and "line." It tells us that the "line" and "staff" should reach out from the executive head, and the personnel of each must be quite independent of the authority of the other. Not a man in the "staff" issues an order to the "line." All of them work together for the information of the management.

The idea that lies back of the "staff" organization is expressed in the old adage, "knowledge is power." The "line," as distinguished from the "staff," is the instrument

The "Staff" and "Line" of an Industry

through which the power of knowledge may be grasped and used. The principles which govern line activities are those of organized coöperative society.

To those who may think that the above is fanciful, or of little practical value, this may be recalled: the value of expert or staff aids to management lies at the foundation of Germany's military prowess. Before the middle of the last century, Prussia was scarcely a third-rate power, and the German states were conducted by the rule-of-thumb methods of a much divided feudal aristocracy. In Prussia, the big German state, were two men, Bismarck and Von Moltke, who saw the practical value of superior organization and methods. When war was declared with France, few if any Frenchmen dreamed that Germany could win against a people who still carried with them the prestige and traditions of Napoleon—a nation more populous and opulent, whose powers had been such as to force all Europe, only fifty years before, to unite against her. But so superior were the organization and the discipline worked out by Von Moltke that inside of sixty days France was on her knees and both Napoleon III and his great army were prisoners of war.

Industrial Service also refers us to Japan, where another people—a people which, until a few years ago, were despised among nations and poor in material resources—came to be recognized as a world power.

After peace is declared, American industries will need the biggest, broadest and most capable men that can be found. There must be a well-balanced "staff" as well as a well-trained and well-disciplined "line." The one is as essential as the other. If the industry is a large and important one, one whose goods can be used throughout the world, then the export business of that industry will be far greater than its domestic business.

So fully is this fact recognized by those who are making a study of the matter, that plans are already being formulated by chief executives of great industries to safeguard such industries now that the war has ceased and peace come again to the world.

How to Build an Annealing Oven for Crucibles

By A. C. SORENSON

THE ideal annealing furnace consists of two chambers and the size depends upon the amount of crucibles used. We have in mind a concern who buys crucibles by the car-load and has built the latest up-to-date annealing plant possible. It consists of two rooms side by side, each one large enough to contain a car-load of crucibles. The heating in this case is done by steam-pipes around the walls sufficient to raise the temperature in the room gradually to 300°; and when a fresh car of crucibles is received, they are put in one of these rooms and the heat turned on and gradually raised until at the end of a week or 10 days it has reached the 300° point and eliminated all the moisture from the crucibles. They are kept in this atmosphere until they are all used up, and in the meantime, when another car of crucibles comes in, it is put in the second oven—the reason for this being that if they were to put the fresh car of crucibles in with some of the seasoned ones, the moisture in the new ones would counteract all the good effect which the previous heat had done. This is the reason for having two ovens.

After it is taken into consideration that a crucible which comes out of our kilns contains as little as one quarter of one per cent. of moisture, as soon as it cools and comes in contact with the atmosphere it is liable to gather as much as 6%, which would mean that in a crucible weighing 100 pounds there would be nearly one gallon of water absorbed, so if this "green" crucible is placed in an oven where the dry ones are, you can readily see what would happen.

It furthermore is necessary that some ventilation be arranged in an annealing oven of this kind. One opening at the top on one side of the oven and another opening at the bottom in the opposite side of the oven allows for the circulation of air which is necessary to carry the moisture away. What we have said in regard to a plant to take care of a car-load of crucibles is equally true in regard to a smaller quantity. The principle involved is the same, and the results in increased life of crucibles will certainly pay the expense involved in installing this kind of a plant.

American Consuls and Merchant Marine

ACCORDING to Edward N. Hurley, chairman of the United States Shipping Board, our merchant marine is rapidly outgrowing our consular service. Mr. Hurley advises that steps be taken immediately to provide facilities abroad for handling the millions of tons of shipping which will be afloat under the American flag in peaceful trade when the war is over.

A story is told by an American consul who served recently at a Spanish port. One of his agents from another port visited him.

"Have you ever cleared a ship flying the American flag?" asked the consul of the agent.

"No, I haven't," was the reply; "and if a ship had to be cleared I wouldn't know how to do it."

At Queenstown, Ireland, one of the greatest ports of call in the world, no vessel flying the American flag had touched in more than nine years until early in 1915, when war and shipping shortage began to take American vessels overseas. This is true of many other ports abroad and illustrates the shipping decadence which is now being remedied.

American Graphite Company

President and Trustees of the American Graphite Company Visit the Company's Plants at Ticonderoga and Graphite, N. Y.

DIXON'S Ticonderoga graphite has long been known the world over as the finest and thinnest lubricating graphite produced. Refiners who have handled various graphites and who have endeavored to produce the highest quality of flake graphite for lubricating purposes have found that Dixon's Ticonderoga graphite is capable of being refined to a higher degree of purity than any other graphite, no matter where it is mined.

With a view to a greater production and a higher degree of purity than ever before, the Joseph Dixon Crucible Company, who are the owners of the American Graphite Company, have installed at their mines highly improved machinery and methods, and with the view of inspecting the process, President Geo. T. Smith and the Board of Trustees made a visit to the mines in October.

They were met at Ticonderoga by Superintendent T. B. Holmes, who had arranged for their accommodation at the hotel at Ticonderoga and later on provided conveyances for the party to visit the various mills and mines.

The President and the Board of Trustees were highly pleased with the improvements and the certainty of a largely increased output of an even better graphite than heretofore produced.

Ticonderoga and the neighborhood is full of historic interest, and the fine weather and wonderful scenery found by the visitors induced them to visit Old Fort Ticonderoga and other places of interest. Even the spot occupied by the graphite mill is a historic spot, as shown by the monument in front of the office of the American Graphite Company, which bears the following inscription:

In 1756 the French erected a mill on the river opposite this spot for sawing and preparing timber used in Fort Carillon, renamed Fort Ticonderoga when captured by General Amherst in 1759.

General Abercromby used the sawmill as his headquarters during the famous battle between the French and English, July 8, 1758, the day of his disastrous defeat; and the famous old Military Road, over which his army marched, passed at or near this spot and through the present mill yard. The hill to the northwest, fortified by the French and called Mill Heights, was again fortified in 1777 and called Mount Hope, its present name.

Erected July 6, 1909,
by the

Joseph Dixon Crucible Co.,
Jersey City, N. J.

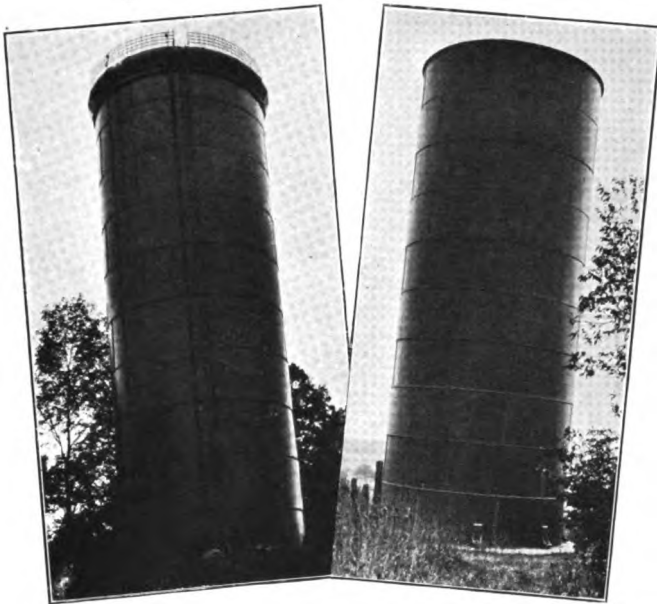
"What Can Advertising Do For Us?"

THE above question seemed to be a very reasonable one for the gentlemen in control of a nation-wide business that keeps busy nine mills in making its product.

That question was asked some time ago. To-day the answer is plain. Not only have sales greatly increased but every article made by that manufacturing concern is sold under their own trade-mark.

Scores of private brands have been discontinued; manufacturing and selling problems simplified.

The President of that great concern said: "The surprising thing to us is the number of different and unexpected ways in which advertising has helped us."



Water Towers, Lyons, N. Y.

Protected with Two Coats of Dixon's Silica-Graphite Paint on the Interior and Exterior

ALTHOUGH Lyons is not a large place as populations go, it became known nation-wide because of the strength and striking individuality of its witty journal, the *Lyons Republican*.

So far as Dixon's Silica-Graphite Paint is concerned, Lyons is also notable for the wisdom of its Municipal Board in choosing a proper protective paint for its water towers.

President Clyde W. Knapp, and Vice-President Hiram G. Hotchkiss, and the other members of the Board knew of Dixon's reputation for **LONGER SERVICE**, harmlessness to potable water, and attractiveness of appearance. But Dixon's most attractive feature is that the user does not have to paint so often and thus saves in labor and material.

"Cheaper-per-gallon" paints are, in the end, dearer "per-year-of-service" paints. "Paint and be done with it," is an adage of economy when Dixon's Silica-Graphite Paint is selected.

Soon Ripe, Soon Rotten

ONE day, two country boys, each about fifteen years of age, met. Jim had already developed a very apparent mustache and his chin whiskers were showing. Jack had nothing in that line in evidence and expressed his envy of Jim. "Don't worry," said Jim, "for Father says, 'Soon ripe, soon rotten.'"

In Jim's case this was true, for he died when about forty-one, and Jack is still going, nearly eighty.



The Electrician of the Thorndike Hotel, Boston, Mass., says that until he used Dixon's Graphite Brushes, he had a great deal of trouble with excessive sparking, but that these brushes are giving entire satisfaction.

A Master Organization Beats Efficiency

A LEAFLET comes to us from a well-known manufacturer in which we find much well worth quoting. If any readers of *GRAPHITE* would like more of it they may address Durham Duplex Razor Co., Jersey City, N. J.

"Let Germany keep for her own, the word efficiency. It belongs to her. We have had too much of it. The word is loaded with evil meanings—until it staggers. It carries the essence of Prussianism. Germany is efficient—and nothing more. 'Efficiency experts' of the do-it-thus type—whether they inflict themselves upon the state or the factory—stimulate, at best, a low order of service. Living muscles on a human frame do not make a man. There can be efficiency without intelligence. But mastery is a matter of spirit. A nation, or an organization, of spiritless men may by sheer driving force accomplish a difficult piece of work; but it will be a costly undertaking. We must put the whole man to work—his mind as well as his muscle.

We thought ours was an efficient organization, but now we know that it is **A MASTER ORGANIZATION**. It has the **SPIRIT**. It 'goes to it' and accomplishes.

Is it necessary to build another piece of machinery—**IT IS BUILT**.

Is it necessary to make a change in the design of a tool or a die—**IT IS DONE**.

Is it necessary to instruct a man or woman to take the place of one who has gone—**IT IS DONE**.

Is it necessary to keep a sufficient supply of material on hand and outguess the market—**IT IS DONE**.

Is it necessary to build a spirit of coöperation between the manufacturers who supply the raw materials and the company—**IT IS DONE**.

It is this **SPIRIT** that never makes excuses for its inability to fill orders.

It is this **SPIRIT** that for nine years has been filling orders on time.

No more shall we use the word 'efficiency.' "

The Keynote of Successful Management

MR. SCHWAB tells us that he has put into practice for thirty-five or forty years of industrial pursuits, one particular thing, which he believes is the keynote of everything he strives to do. That particular thing is encouragement and not criticism in dealing with all his men.

Mr. Schwab says: "I have yet to see the man, however great and exalted his situation, who is not susceptible to the approval of his fellow men. I have yet failed to see the man who is worth calling a man, who does not put forth his best efforts under the approval of his fellow men. And the severest criticism that can come to any man is not to find fault with him, but not to be noticed at all. When a man is not noticed, he knows that he has not gained the approval of his fellows, but when he is approved he gives his best effort."

One salesman said that nothing better came to him in the way of encouragement than an occasional letter from his boss. There are to-day old-timers in the employ of the Dixon Company, here in the United States and in foreign countries, who have cherished and who will not even now part with some of the letters they received from the late John A. Walker, Vice-President and General Manager. This has proved to the writer that it is best for the boss to know his men, to know their work, to visit them and to deal with them as nearly first-hand as his time may permit.



DIXON HONOR ROLL

H. C. Ackerman	Frank Donato	S. J. Livingston	J. Sadowski
Frederick Altz	F. Dwyer	A. Lesman	E. A. Sell
E. Arend	E. Dilman	Leroy R. Moore	B. F. Sherman, Jr.
B. C. Arey	Martin Elmquist	T. McCrystal	A. E. Schmidt
Thomas Allen	Harry D. Erickson	James Menter	George T. Smith
O. Augustus	Charles Evans	William McFadden	Howard P. Smith
Edwin Arends	Thomas Evans	Daniel Mitchell	Fred Schweer
Henry W. Armstrong	D. Ehr Gott	J. J. Monahan	J. C. Somers
Louis Arnold	John Fargo	Tony Moroteko	Sam Vitali
Edward Backus	M. Fallon	George W. Muttart	Angelo Vertucci
Gerald V. Barry	C. Fromlara	A. Nickel, Jr.	Donald M. Waldon
J. A. Biel	T. Feinsilver	Charles C. Nunn	William J. Ward
Fred Birk	J. N. Gibbs	John Nuatka	Joseph Whitley
C. A. Brunger	Joseph Green	Dennis O'Leary	Benny Wickiolo
George Brown	Martin Galletto	Alex Pesta	W. C. Weaver
Roy Bundy	Harry Grube	V. Petrie	John Weisenhoefer
E. Backus	J. W. Hamilton	Charles Phillips	David Young
Thomas Carroll	Karl Hanson	Leman Phelan	H. B. Steffens
F. W. Cassey	Reinhard Hanson	Frank Pfluge	R. B. Vincent
John Conklin	George Heather	Harvey M. Ragan	E. N. Detrich
F. Cywinski	A. R. Henry	George Roessler	Jacob Bercowitz
Harold N. Coons	Herbert L. Hewson	Joseph Romansky	Joseph Tedesco
Harold V. Callanan	Joe Hummell	Lawrence W. Roush	Tony Caputa
John Crosby	Albert Johnson	C. Reuth, Jr.	Peter Barrone
William Cordes	William Kennell	Herman Shonfelder	F. Tacopetti
A. Dambrozio	Walter F. Koch	A. K. Sutton	W. P. S. Burrell
Louis Dessy	Henry Kreush	John Stier	

Care for New Belts

BELTS, in many respects, are like most other pieces of machinery. They "settle down" only after use. If well maintained they will run better the second year than the first.

Most belt troubles are caused by early neglect. The good that is in the belt is quickly lost unless some attempt is made to keep it there.

The best way to keep the good in the belt is to make the belt even more pliable than when new. Do not allow it to slip at any time, for slip generates heat and heating is hard on all belts—old as well as new. The belt becomes charred, hard, and can never be rejuvenated. The good is gone forever. Proper treatment when the belt is new is the only protection against this effect.

Again, if the belt is not treated when new, and even if it does not slip, there is a certain amount of internal wear produced by one dry fiber sliding and grinding against the other, which leads to early self-destruction. If these fibers are lubricated when the belt is new, there can be no grinding and wearing out.

Of course, the belt must be treated from time to time thereafter just as any machine must be oiled from time to time, but a machine does not need as much oil after it has settled down as when new. The same is true of belts.

Get after your belts when new.—*Practical Engineer.*

A large amount of belting is ruined every year through neglect or the use of harmful "belt foods," and this condition continues in spite of the high cost of belts and the need for conserving material. In some plants the old-fashioned practice still persists of concocting mixtures of rosin, tar, soap, castor-oil, tallow, neat's-foot oil or other animal and vegetable substances. Some of them are no doubt good, although more by accident than through an accurate knowledge of what is required.

Belting is sufficiently expensive to warrant careful attention by a competent man; in large plants his time would be fully occupied with inspection and care of belts. He should be capable of judging a good dressing when he sees it, and letting home-made preparations alone. Such a man will appreciate the merit of Dixon's Traction Belt Dressing (paste) and Dixon's Solid Belt Dressing. They retain the fiber of belts in strong, pliant condition. Dust and dirt do not readily gather upon the belts because adhesiveness rather than stickiness is imparted by the dressing. Water, steam and chemical fumes have no effect on belts thus treated.

If we were to "blow our own horn," the burden of the tune would be that Dixon's Belt Dressings have no superiors.

Convention of the American Manufacturers' Export Association

AS the daily papers have shown, the ninth annual convention of the American Manufacturers' Export Association was held in New York, in the Waldorf-Astoria, October 30th and 31st, ending with a banquet on October 31st, at which nearly one thousand of the prominent manufacturers of the United States were represented either by the owners, presidents, or some important officer. There was also a good attendance of guests. Prominent speakers from manufacturing, railway and shipping circles as well as Government officials were listened to with marked attention and profit.

The Dixon Crucible Company has been a member of this association for many years. It is a thriving association, and

is growing with great rapidity under the inspiration of its President, Mr. Geo. Ed. Smith, President of the Royal Typewriter Company, and his able staff of Vice-Presidents, Directors and most efficient Secretary, Stanley J. Quinn.

The holding of this convention was recognized in Washington as the first real opportunity which has presented itself for obtaining concerted expert action making toward a cooperative policy for commercial reconstruction.

Government officials did not attempt to hide the fact that they were looking to the convention to stimulate American commercial interests to a marked degree, and they stated that the recommendations which might emanate from this representative gathering of America's foremost commercial interests would have a very wide and powerful effect in governing the after-the-war policy of the nation.

"Spanish Influenza"—"Three-Day Fever"—"The Flu"

THE United States Public Health Service, under the above titles, gives in its Supplement No. 34 to the Public Health Reports a very full explanation of the influenza or fever that spread over the entire world.

It tells us that the disease resembles a very contagious kind of "cold" accompanied by fever, pains in the head, eyes, ears, back or other parts of the body, and a feeling of severe sickness. In most of the cases, the symptoms disappear after three or four days, the patient then rapidly recovering; some of the patients, however, develop pneumonia, or inflammation of the ear, or meningitis, and many of these complicated cases die.

Epidemics of influenza have visited this country since 1647. The first epidemic was brought here from Valencia, Spain. In 1889 and 1890, an epidemic of influenza, starting somewhere in the Orient, spread practically over the entire civilized world.

There is no reason to believe that the present epidemic, called "Spanish influenza," originated in Spain. Some writers believe that the epidemic came from the Orient.

Bacteriologists who have studied influenza epidemics in the past have found a very small, rod-shaped germ, called, after its discoverer, Pfeiffer's bacillus. In other cases of apparently the same kind of disease there were found pneumococci, the germs of lobar pneumonia. Still others have been caused by streptococci, and by other germs with long names.

The influenza is always spread from person to person. The germs may be, however, carried along in the air in the form of dust coming from dried mucus, or from coughing and sneezing.

A person may have only a mild attack of the disease himself, but may give a very severe attack to others. When a person becomes sick he should go home at once and go to bed. This will help keep away dangerous complications and will, at the same time, keep the patient from scattering the disease far and wide.

A person may have an attack of influenza more than once. It is said that the King of Spain had a severe attack some thirty years ago and was again stricken in the last epidemic.

A person may fortify himself by having a proper proportion of work, play and rest, by keeping the body well clothed, and by eating sufficient wholesome and properly selected food. In connection with diet, it is well to remember that milk is one of the best all-around foods obtainable for adults as well as children.

Above all, keep away, if possible, from all crowded and stuffy places.

The Care Given American Soldiers

WHEN the American soldier is assigned to quarters he is given the most searching physical examination.

It has been said that during the past wars there were more desertions from foot trouble than all other causes combined. The attention given to the selection of shoes for the soldiers in the American army is a sidelight on the care we give our fighting men.

When a soldier gets his first pair of shoes he gets a pair that fit his feet. No account is taken of the size he wore before. His feet are placed in a cunningly devised form where the length and width are exactly determined. He bears his weight on this little machine and an officer and a non-commissioned officer take the size record of both feet, also his name, company and regiment. Then he puts on a pair of shoes of the size called for.

No army in the world has ever attained such a health record as ours, the death-rate being eight out of every thousand, here and abroad.

The average gain in weight of the American soldier since entering the service is twelve pounds per man.

This information comes to us through the National Woman's Liberty Loan Committee.

Deepest Well in the World

THE *Mining and Scientific Press* tells us that the deepest well in the world, already 7363 feet deep, is now being drilled on the Goff farm, eight miles northeast of Clarksburg, W. Va. The drilling is still in progress and sufficient length of cable and adequate power and tools are at hand for driving still farther into the crust of the earth. The well goes farther down than the deepest mines in Michigan, Brazil, or Europe. Several oil wells in California, in the Southwest, in West Virginia, and in Pennsylvania have exceeded 4000 feet in depth, and one near McDonald, Pennsylvania, fourteen miles west of Pittsburgh, reached 7248 feet below the surface. The temperature at a depth of 7000 feet was found to be 152° F., and the rate of increase at this depth is about 1° in every 51 feet. It is estimated that the temperature of the rocks beneath the Goff well will be found at the boiling point, 212° F., at a depth somewhere around 10,000 feet. The well is being drilled in search of deeper oil-sands than have been reached in this part of the basin. If the well strikes a valuable oil or gas pool, it may lead to the development of new reserves that may open a new era in the history of the Appalachian oil and gas region.

The Salesman

Is he born or made, or is he the product of birth and education both? This question applies equally well to poets and artists.

THE above question seems to be one that has been debated for hundreds of years, perhaps for thousands of years, and still is a very live question. There are some who contend that the salesman is born, others who contend that he is the product of skilful training. Without doubt, birth has much to do with it, but training certainly is needed and no salesman can properly go out and do justice to himself or to his company unless he has had all the training necessary. Without the training, he is very much like the soldier.

However, let us see what Cicero said, and we all acknowledge that Cicero was probably one of the brightest and ablest thinkers that the world has ever produced.

Cicero said: "I admit that there have been many men of

excellent mind and ability, and that these men, because of their genius, have existed through themselves alone. I also grant that natural talent without education has counted more for praise and glory than education without natural talent. But I maintain this: when some methodical instruction and training is added to excellent natural talent, then is the true ideal of perfection wont to exist."

A Pleasing Custom That Should Be Productive of Good Results

MR. WILLIAM M. CRANE, President of the William M. Crane Company of Jersey City, in an article published in the *Jersey Journal* of Jersey City, says:

"Several years ago we adopted at the factory, aside from the daily conference, a bi-monthly meeting of the foremen and heads of departments, presided over by our General Superintendent. At the close of business, at 5:30 o'clock, the day of the meeting, we serve a good supper in the office. At 6:45 the meeting is called to order, and then is taken up for discussion and action anything for the good of the business, such as complaints from customers or between departments, the making of new goods, rush orders, etc. At 8 o'clock sharp the meeting is closed and the men, having had their supper, have not lost their evening. We have found this to be one of the most successful means of getting together. It smooths out many misunderstandings and has brought all of our men close together as friends who are gladly willing to help each other whenever needed. It has also developed a loyalty to the company of which we are proud."

Observations

WE are frequently brought up before the fact that we are not as good observers as we should be. Years ago, we had our attention called to the red-haired girl and the white horse, and now the *New York Sun* propounds the following: "Did it ever occur to you to wonder why you never see a spectacled waiter?" Now suppose we take note of that statement and see what specimens of spectacled waiters we can locate.

Then we have the following: "Why are almost all literary women ugly?" We do not admit that all are ugly. The writer had the pleasure once of traveling a good many hundred miles with Mary Roberts Rinehart, and certainly for one she is very far from being ugly. If one could see her in her riding-suit after a morning's ride, he might take her for a twenty-year-old beauty, in spite of the fact that she might be called "an old married woman," as she has two or three fine strapping sons. We believe that the literary woman will compare more than favorably with the literary man.

Another puzzle is: "Why were the Three Musketeers four?" If you doubt it, read the book once more, for you certainly have read it once, and you probably overlooked the fact that there were four in the bunch, and you may be able to answer the conundrum.

Then again: "What has a pipe to do with the making of a good detective?" Every detective is usually mentioned as smoking a pipe. On the stage they generally have a cigar. Perhaps it suggests reflection.

But to come back to the original: "Why is it that you never see a waiter using spectacles?"

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"Do right and you will fear no man.

Don't write and you will fear no woman."

Letters from the House

(No. 1)

THE following is an extract from a very interesting article found in *Printers' Ink* of June 27th:

"An old-time salesman was asked what he thought of letters from the house. He replied: 'There are letters and letters. The letters that help a man sell are the same kind of letters as those that make a man feel good when he reads them. I like to get some kind of letters, no matter if they are from personal friends or business friends—because they are full of things that interest me.

'I do believe, though, that the idea of a great many houses of hiring a "Correspondent" to throw a lot of enthusiasm together and send it to me every evening is not only a discredit to the house but an insult to me. I have had letters from the house that were fine literary masterpieces, but they did not interest me any more than letters from my old maid aunt. I have also had letters that made me sit up and take notice and go to work. That kind of letter I like to get, I do not get many of. If I was at the head of a house I would write a letter at least twice a week to the boys on the road. If I could not do it myself, I would have someone with authority in the house who knew what he was talking about write that letter for me, but I would not ask the salesman to read the gushings of a spellbinder. I like to get letters that tell me what is going on in the house; what the factory is doing; what the competition is thinking about and doing; what the market conditions of raw materials are; how the war is affecting our business as a whole; whether the prices are expected to go up or down; what the labor situation is; how things in general are. Most heads of firms forget that the salesman is more vitally interested in the success of the house than almost any other employee can be, yet on account of being gone so much of the time he does not have nearly enough of the first-hand knowledge that he should have. If a salesman is worth having at all, he is worth being taken right into the confidence of the house and given a chance to know what is going on. I can work twice as hard and twice as sincerely when I know what I am talking about. A good salesman these days, especially a man working a regular monthly or six-week territory, must do more than just show samples and quote prices. If he knows something more about the business, he can convince the dealer that he is more than just an order taker.'"

Eleven Essentials for Foreign Trade

DR. W. E. AUGHINBAUGH, editor of the Foreign Department of the *New York Commercial*, has been out to Cleveland, where he addressed the Advertising Club on the subject: "How America Must Develop Her Foreign Trade."

The *Torch* reports him as follows:

"The speaker's criticism of our foreign trade policy was not destructive, but instead he advanced eleven essentials which are necessary for the proper development and maintenance of foreign trade, and which are worthy of printing.

"First—A complete chain of banks in the overseas countries coöperating with home institutions, able to render substantial and prompt financial aid to both the exporter and importer.

"Second—A national merchant marine, independent of

government control, but subject to its orders in time of war.

"Third—The establishment of trade relations with other countries on a reciprocal basis.

"Fourth—The organization of a newspaper cable service similar to our Associated Press, with the object of daily, mutually exchanging news items of international interest.

"Fifth—The enactment of flexible tariff laws.

"Sixth—The improvement and extension of our consular service.

"Seventh—The recasting of all of our trade treaties.

"Eighth—Intimate coöperation and coördination by and between our government and manufacturers, exporters and trade associations.

"Ninth—The employment of Americans in managerial and executive positions abroad, with all-American organizations.

"Tenth—The employment of qualified Americans to manage corporations engaged in foreign trade.

"Eleventh—The absolute protection, by force, if necessary, of the rights of the American investor in foreign lands."

Coffee

THE ordinary coffee plant is a native of Abyssinia, and as such was used as a beverage, both in the wild and cultivated state, from time immemorial. It was carried into Arabia about the beginning of the fifteenth century. From Arabia it was carried to all parts of the Mohammedan world by the Mecca pilgrims, who found in it a happy substitute for the alcoholic beverages forbidden by the Koran. The first authentic mention of it by a European was by a German physician and traveler, on his return from a tour through Syria in 1573. It was brought to Venice by a physician in 1591. It is referred to in 1621 by Burton in his "Anatomy of Melancholy," as follows: "The Turks have a drink called coffee, so named from a berry black as soot and as bitter, which they sip hot because they find by experience that that kind of drink, so used, helpeth digestion and promoteth alacrity."

The first coffee house established in London was in 1652. Coffee was heard of in France in 1658, and became fashionable in Paris in 1669. There is a whole lot of interesting information in regard to coffee, which space will not permit to be given here.

Financial Hobos

FINANCIAL hobos" seems to be rather a peculiar term, but we are told that every large city has a great many of them, and that if the "fight or work" law goes into effect it will hit a horde of non-producers who live well and do nothing—except the public. It is said that during the past twenty years the American public has been looted for probably two hundred millions of dollars through the purchase of worthless so-called "securities," stock that never had a chance to make good and would not have made good had they been based on the best properties in the world. In many cases these stocks had behind them little more than the imagination of the illicit promoter.

The tribe that has devoted its time and energies to the flotation of imitation securities has multiplied in a prodigious manner until to-day the very term "promoter" signifies in the minds of many "a man who sells nothing for something to a customer who thinks he is getting something for nothing."

The Missing Ones

WE recognize many
Of the old bar fixtures
All camouflaged up
As soda fountains,
But the old bar-flies
Seem to have passed on.

—Arkansas Gazette.

One on Jack

JACK LEWIS, of Atlanta, tells a good one on himself:

Some time ago, when in Birmingham, Ala., he went up to a cigar stand for a package of his favorite "Durham." The cigar stand is in charge of a very bright young lady. Jack noticed that she was wearing a service badge with nine stars. Jack could not help but ask her if she had nine people in the Service, and she replied with a twinkle in her eyes, "Yes, one sweetheart and eight customers."

WHEN Herman Price was starting his advertising campaign on Dixon's ELDO-RADO pencils, he was asked if the ELDORADO was intended to reach any special class. "You bet your life," said Price; "the class that is willing to pay for the best and most economical pencil on earth, made in 17 degrees of hardness, so that any grade of work or use may be accommodated."

WE have to-day 350,000 workers engaged in building merchant vessels in the shipyards and 200,000 in the iron works, steel mills, shops and factories making shipbuilding materials. A little more than a year ago this industry did not exist. Now it employs four times as many workers as the automobile industry employed at the time of the last census.

Anatomy of Success

GET up on your toes.
Put the best foot forward.
Stiffen your backbone.
Throw back your shoulders.
Hold up your chin.
Keep a stiff upper lip.
Keep your eyes and ears open—
And your mouth shut.
Use your head,
Go ahead,
And get ahead.

—H. W. Dee, in *Texaco Star*.

Another One Added to Dixon's Honor Roll

MR. WILLIAM P. S. BURRELL of the Dixon advertising force has been called to the colors and is now located at Camp Joseph E. Johnston, Fla.

Mr. Burrell finds the work pleasing but of pretty large quantity; nevertheless, it is interesting to him, and his object is to enter the Officers' Training School.

Altogether the Dixon Company has 106 men on its Honor Roll.

Ain't It Discouragin'?—Hopkins



A Strange Letter

Oct. 7, 1918.
Joseph Dixon Co.
Dear Sair:—

Send at wonst 4 gross two me C.O.D. at 5 dalls per gross. \$20.00. W. E. J. for my salfe I sell of goods from 30 two 40 dalls a day house two house. I go out of town. Bean working for my salfe 14 years, out dore work. I must say I am a veary good toucker and a good salesman I have sold your Stove Polish at 25c each one only. Do you neat a good salesman.

The Lesson of British Experience

MR. VAL FISHER, a London advertiser, gives American business men some things to think about in a recent address in New York.

For instance:

"British manufacturers who have not a dollar's worth of merchandise to sell, whose entire plants are employed in Government work, are keeping their advertising continuously before the public, because—they are not willing to have their names or products forgotten."

"When the war is won these manufacturers will not face the necessity of building up a new trade; they will enjoy immediate demand for the products which their enlarged plants will be able to turn out."

Manufacturing Destroyers

THE United States Committee on Public Information advises us that it used to take two years to build a fast destroyer. Now we have built one in little more than two months.

These craft, costing two million dollars each, have the engine power of the old battle-ship *Maine* and the speed of a motor-boat. They were the most effective weapon against the German submarine.

Paint Chimes!

WHEN you think of fixin',
Think of "Dixon
Silica-Graphite Paint,"
For metal or wood,
"None other as good."

Coöperation Between Salesmen and Officers of Company

COÖPERATION between the salesmen and the officers of the company will increase efficiency in salesmanship. Salesmen in many instances do not have the support of their officers, and without it it is a hard matter for a salesman to go out and do big things.

The salesman is quite frequently turned adrift to make good. He is not in direct touch with the president, the manager, or the local sales manager of the company, and if the sales do not come up to the mark they will say, "Get rid of this fellow—he is no good." This is one of the great mistakes in business to-day—this lack of coöperation between officers and salesmen. Every salesman needs the direct coöperation and support of his superiors, from the president down.—*Edward N. Hurley.*

Cheap Goods

THE cheapest goods in times of peace and easy money are not the cheapest goods in times of war and high price of labor and materials.

This is true of lead pencils, paint and some other goods made by the Dixon Company. A first class, high grade pencil like Dixon's "ELDORADO," with an exceptionally durable and tough lead, will outlast several cheap ordinary lead pencils, and yet will cost no more.

It is especially true of Dixon's Silica-Graphite Paint. This paint is known as a long service paint, and when it is recalled that no matter what paint is used, labor costs twice as much as the paint, it is easily seen that the cost of the paint protection lies more in the labor than in the paint.

Coefficient of Friction

THIS is a term that is probably used more than any other in mechanics and yet is the least understood.

So that our readers may know, we give below an easily understood definition:

"In any mechanical device such as a machine, the coefficient of friction is the ratio of work done in overcoming the friction of moving parts to the total amount of power delivered to the machine, and is affected in its extent by conditions of temperature, pressure and velocity."

GOLDEN BOUQUETS

OR WHY

DIXON'S
ELDORADO

"The Master Drawing Pencil"

SHOULD BE USED

From an Architect:

"PENCILS are all O.K.; bought some from — Co., this city. Wish to thank you for the samples. You have a better pencil than the —."

A Machinery Manufacturer writes:

"REGARDING the results of our trial order of ELDORADO pencils, would advise that upon inquiry of the members of our engineering force, we find your pencils are giving universal satisfaction. We congratulate you upon the results obtained in producing a 'Made in America' pencil."

From a Steel Company:

"WE have been giving the sample pencils received with yours of the 10th ultimo a thorough trial. We are now using these pencils in our drafting room."

A Machinery Manufacturer writes:

"PLEASE be informed that we have placed our second order for ELDORADO pencils."

A Banker writes:

"YOUR ELDORADO pencils were just what I have wanted for a long time."

From a Writer:

"THE samples of Dixon's ELDORADO have proven entirely satisfactory—the leads are smooth and evenly graded."

A Draftsman writes:

"DELIGHTED with samples sent. Have recently purchased two dozen of 2H and HB through local dealer."

From a Large Business House:

"WE found the ELDORADO very satisfactory and as a result of the test have been using them in our Accounting Department."

A Southern Architect says:

"WE are using your pencil now on our work and find that it comes up to all you state in your correspondence; it wears well and is less trouble to keep sharp. We cannot say too much for the pencil."

From an Architect:

"I HAVE been trying out some of the pencils mailed recently to this office as samples and wish to congratulate you on the developments along these lines. For a long time I have tried to find an equal to the foreign-made ware which has been almost a necessity to the expert draftsman, and we must admit that these foreign pencils have been used almost entirely in architects' offices in the past. I am now pleased to find that we have an American-made product which can take the place of the medium used heretofore."

From an Artist in "Who's Who":

"THE samples of pencils were most satisfactory. They combine a smoothness and toughness that are quite rare and very gratifying to work with. Accept my thanks."

An Artist says:

"I RECEIVED your samples of the ELDORADO drawing pencil, and can say that it meets my requirements satisfactorily. I can highly recommend this pencil for use in drawing to any one who desires a pencil of quality and tone."

An Office Head writes:

"WE have been using ELDORADO pencils for the past six months and find them satisfactory in every way."

A Banker writes:

"RECEIVED supply of your Dixon's ELDORADO with which we are very much pleased, especially the B and HB. We will keep the ELDORADO in mind the next time we order."

A Car and Foundry Company says:

"WE have made Dixon's ELDORADO drawing pencils standard in our mechanical department."

From an Engineer:

"It pleases me to let you know that I have been using your ELDORADO brand of pencils for some time and found them equal to the imported pencils that I used to buy. I will from now on use that brand exclusively in my work."



Answer the
Red Cross



Christmas Roll Call ❧

**All you need is a heart
and a dollar** ❧ ❧ ❧ ❧

Ray Greenleaf 

THE DE VINNE PRESS
NEW YORK

